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USSR Report

TRANSPORTATION



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CIVIL AVIATION

CIVIL AVIATION OFFICIALS REVIEW MINISTERIAL CONCERNS, GOALS

Moscow VOZDUSHNYY TRANSPORT in Russian 24 Jul 84 pp 1-2

[Report at 19 July meeting of the Ministry of Civil Aviation party aktiv by B. Panyukov, first deputy minister of civil aviation, with statements by S. Dikov, secretary of the party organization of the Main Administration of Aviation Work and Transport Operations; Yu. Darymov, chief of the Education and Training Establishments Administration and member of the party committee; V. Latyshkov, secretary of the party organization of the Scientific and Technical Main Administration; A. Timofeyev, deputy chief of the Flight Service Administration; A. Stepanova, chief of a department of the Labor Organization and Wages Administration; and Ye. Bubnov, secretary of the MGA [Ministry of Civil Aviation] party committee: "A New Prospect for the Sector's Economic and Social Progress--in Efficient Work in Every Section Today"]

[Excerpts] A meeting of the Ministry of Civil Aviation party aktiv was held on 19 July. Its participants discussed the question "On the tasks of the communists of the MGA organization to ensure the further economic and social development of civil aviation in 1985, 1986-1990, and the period up to the year 2000 in light of the directions by Comrade K. U. Chernenko, general secretary of the CPSU Central Committee."

As already reported, the basic directions for the long-range development of civil aviation were defined more precisely at the meeting of the MGA collegium. Reinforcement of production intensification, acceleration of the rates of scientific and technical progress, a significant increase in the volume of operations carried out through an increase in labor productivity, further reduction of the production cost of aviation operations, and reinforcement of the procedure of economizing all types of resources were stipulated. Particular attention was devoted to improvement of the quality and regularity of flights, efficiency in the use of aviation fuel, and development of the material and technical base, primarily in directions which provide for scientific and technical progress in the sector and improvement in the work

and everyday life of aviation workers. Measures have been stipulated to put capital construction in order and to reduce the period for construction of projects.

Active participation in resolving the complex tasks which confront the sector must become the most important responsibility of every communist, every economic manager, and every aviator. This work should first be under the direction of the communists of the ministry organization.

The tasks confronting the party organizations of administrations and all communists of the ministry organization to provide for the sector's economic and social progress were defined in the resolution of the party aktiv meeting.

Taking part in the work of the meeting were Ch Mar Avn B. P. Bugayev, minister of civil aviation; V. V. Zamotin, head of a sector of the CPSU Central Committee Administrative Organs Department; N. N. Nedorezov, instructor of the Transport and Communications Department of the CPSU MGK [Moscow City Committee]; and Yu. M. Kazantsev, instructor of the Organization Department of the Frunze Rayon party committee.

B. Panyukov, first deputy minister of civil aviation, delivered a report at the aktiv meeting. The speaker said that the state plan for the first 6 months had been fulfilled by 102.1 percent for passenger turnover, 101.4 percent for total transport volume, 102.6 percent for passenger transport, and 103.0 percent for hours of accrued flying time reduced.

Compared with the first 6 months of 1983, passenger turnover increased by 4.3 percent and overall transport volume by 3.7 percent.

An above-plan increase in labor productivity and a reduction in the production cost of operations have been ensured. Specific work has been carried out to resolve the sector's principal problem--improvement in the quality of flight work.

The speaker noted that no work will be considered efficient and no administration will be considered thorough if the established state plan is not fulfilled by all enterprises or it is fulfilled irregularly.

Unfortunately, there are aviation enterprises which are not fulfilling the established plan targets. Let us take, for example, the results of our work for the first 6 months of the year. Along with positive results as a whole for civil aviation, individual administrations have worked below their potentialities in the period under review and have tolerated a decline in the quality indicators of work. In addition to omissions in production activity by some operations administrations, there also are definite shortcomings in planning, economic analysis and supervision of the course of state plan fulfillment. Apparently not all communists and employees of a number of administrations of the

ministry's central organization have drawn the proper conclusions yet from the decisions of the April (1984) Plenum of the CPSU Central Committee and determined their specific place, their role, in the practical realization of these decisions.

Managers of ministry administrations have to seriously analyze the state of affairs in the lagging operations administrations and undertake all the steps necessary to correct the situation.

It is necessary for us to reinforce supervision over fulfillment of established plan targets, to continuously keep our fingers on the sector's pulse, if it may be expressed this way, and to be not simply the ones who record the events which take place, but continuous organizers of production who possess all the modern ways and means of administration, analysis and supervision. This comrades, is the principal task of the employees of the sector's central organization.

This year we have to make fresh gains and at the same time make up for what has been neglected in the last period of the current five-year plan to the maximum extent possible. And here we are obligated to the state, and no one has rescinded for us the target established by decisions of the 26th CPSU Congress to ensure that passenger transport is increased by approximately 1.3 times as much. Reserves have been far from completely utilized by us. They consist primarily of further improvement in the operation of aircraft technology, and commercial cargo loading first of all.

The active development of airports to accommodate the Il-86 aircraft, as well as development of fundamentally new methods of organizing their technical maintenance, require particular attention. Aircraft with large passenger capacity must operate with maximum efficiency.

In its decree of 28 June, the MGA collegium stipulated a large increase in work volume. It is envisaged that development of civil aviation in the period up to the year 2000 will outstrip the rates of development of other forms of passenger transportation. This places additional obligations on all of us, and it requires that everyone, the sector's communists first of all, engage in substantially more active work to transform Aeroflot into the standard for transportation. The collegium defined the principal task in the field of air transport--providing for the fullest quantitative and qualitative satisfaction of the demands of the national economy and the people of the country for air transport and other operations. Such a task cannot be carried out without extensive organizational work by party organizations, economic managers, and literally every worker in the sector, so that each finds the point for applying his own energies in its solution, figuratively speaking.

The speaker emphasized further that a decisive condition for realizing the objectives in the period under review is the introduction into the sector of new aircraft technology. It follows from this that a key objective of communists of the sector's headquarters is continuous, constant supervision over the introduction of the achievements of scientific and technical progress in civil

aviation. And not only supervision, but direct participation in the development and introduction of new models of aviation technology as well.

Acceleration of scientific and technical progress in the country's national economy is a decisive condition for increasing production efficiency and work quality. The economic laws of developed socialism demand this, the party demands this of us, and events themselves demand this. At the same time, we must be strictly guided by the decisions of plenums of the CPSU Central Committee on the problems of significant improvement in labor productivity based on consistent implementation of a single scientific and technical policy, further development of scientific research, extension of the integration of science and production, and broad and accelerated introduction into practice of the achievements of science, technology and advanced experience. This is the strategic direction of our work; this is a decisive condition in providing for the targets outlined for the 15-year period. And all the administrations of the MGA, all workers of the administrations, and all communists must concern themselves with these problems, and not occasionally, but continually, systematically. The party bureaus of administrations and independent departments must take this work under special supervision and regularly listen to the appropriate employees at their meetings. The MGA party committee will make communist managers more strictly responsible for the course of fulfillment of the CPSU Central Committee and USSR Council of Ministers decree on this matter.

The draft of the Basic Directions for development of civil aviation in the 12th Five-YEAR Plan and the period up to the year 2000 provides for a significant increase in efficiency in the use of aviation fuel. This will not take place by itself. We must work very seriously on this problem. The decisive factor here, of course, is new, more economical aircraft technology, although we also have some work to do. Considerable experience in this matter has been accumulated, and we have carried out a number of fuel-saving measures--reduction of airspeed, new separation, new takeoff and landing procedures, a change in the system of incentives for fuel economy by aircrews and command and management personnel, and a number of others. These are problems of exceptional importance, and they must be resolved. The sector has the necessary scientific potential and skilled specialists at its disposal.

The CPSU Central Committee Politburo, in reviewing the draft of basic directions for the country's economic and social development up to the year 2000, has required that the most decisive measures be taken to further improve the economic mechanism of all sectors of the national economy and all ministries and departments. The principal direction in this work is the elimination of superfluous, redundant units and reduction and simplification of the administrative system. It is appropriate here to recall the words of Comrade K. U. Chernenko, spoken at the April (1984) Plenum of the CPSU Central Committee: "...The work on reduction must be carried out not only at the lowest and middle levels of management, but also at its summits, so to speak. Whether anyone likes this or not, it is necessary."

We have begun to conduct this work in the system; we have inspected several administrations and have come to the conclusion that there are unnecessary units, not all employees have a full workload, and there also are functions which are not appropriate for the central organization which ought to be transferred to

aviation enterprises. In examining this problem, I would like to dwell further on the following matter. We also talk a great deal about automated control systems. A special institute has been established. And results should be more substantial. One of the most important assignments for the ASU [automated control system] is reduction in the work force.

Comrade communists! It was noted at the April (1984) Plenum of the CPSU Central Committee that the most important condition for our confident movement ahead is a continuous increase in the level of education and overall culture, vocational skill and civic activity. Under conditions of the scientific and technical revolution and the avalanche of increased data, the problem becomes especially acute. If we do not want to lag behind events, to keep abreast of the times, we must study, study on a large scale, and learn first of all to become proficient in new methods of managing the sector and its enterprises. I will remind you that we are discussing the sector's problems for 15 years in the future.

In light of these requirements, an immense responsibility lies on our higher educational institutions. The communist managers of the administrations of educational institutions and personnel must now prepare new programs without delay to increase the skills of management personnel, devoting particular attention to study of modern science and management practice, to the mastery of advanced experience in economic management.

The most important aspect of improving the sector's economic mechanism is the continuous improvement in planning the production and economic activity of operations enterprises. And while the situation in transport aviation could be called tolerable (although there are individual operations there which are incomplete, too), in the business of improving the planning of aviation for the PANKh [Use of Aircraft in the National Economy Administration], there is no end to the work, as they say.

Experience itself urgently requires that substantial changes be introduced in the system of planning and wages. Its main objective is to increase the motivation of the aviation enterprise and the client to improve utilization of the fleet of airplanes and helicopters for commercial loads, especially in transporting passengers and freight. In the drive to fulfill the plan to reduce the hours of accrued flight time, individual managers resort to additions and all kinds of misuses. This problem has become urgent in the sector, and it has repeatedly become a subject of discussion in the central press. The establishment of clear and specific planning indicators for the basic types of PANKh operations--a sort of listing of the range of operations--this is the main direction in which improvement of the planning of this type of aviation work should be carried out.

The hectares treated, the square kilometers of aerial mapping, the tons of freight carried, and so forth--enterprises must establish these indicators and struggle for their fulfillment. This is not a simple matter, of course; it is exceptionally complicated, but it is necessary to resolve this problem. Such an objective is being set for communists of the GlavPEU [Economic Planning Main

Administration], the GUARP [Aviation Work and Transport Operations Main Administration], and the UOTiZ [Labor Organization and Wages Administration], and it should be fulfilled with quality and exactly on time. In resolving the problem of improving the use of the sector's production capital, we cannot lose sight of the need to put capital construction in order by providing first of all for a reduction in the periods for project construction by no less than a factor of 1.5 to 2. The Capital Construction Administration must take the most energetic steps for complete fulfillment of this requirement of the party's Central Committee. And Aeroprojekt [Central Office for the Surveying and Planning of Airlines and Airports] must perform substantial work in this direction. In our sector, the cooperative form of participation by workers in housing construction is not being utilized with sufficient effectiveness.

The party requires that we organize work so that the initiative and creativity of the broadest masses of workers are brought to light with all the fruitfulness and energy possible. Continuously functioning production conferences and brigade councils, and urgent work by party, economic and public organizations--all this increases their labor energy and develops a sense of ownership of their country. Progress is achieved in this work where they conduct organizational and political education work not "generally," but when they strive to reach every worker, the heart and mind of the person, and where they create the conditions for participation by every worker in the work of their collective and society as a whole.

With approval of the Law on Labor Collectives, development of the brigade forms of organization and labor incentives, opportunities for democratization of production management are expanding. At the same time, the collective's economic responsibility for the end results of its work is increasing. Every worker should know and should be confident and convinced that his conscientious labor will not go unnoticed and will be evaluated on its merit. At the same time, a manager of any rank must have the ability to call to order those who are negligent, and if necessary, to penalize them with the ruble. At present, we have not put everything completely in order with regard to economic incentive. This is one of the reasons why the number of our contracting brigades is not increasing as intensively as we would like.

Our party duty is to intensify repeatedly the struggle against plunderers of socialist property and violators of planning and production discipline. The struggle against these manifestations must be uncompromising and be conducted continuously and strictly, without any allowances for anyone.

This is the party line. And it must be persistently put into practice, regardless of the persons involved. Party organizations, together with trade union organizations and people's control organs, have to provide every possible support for those who do not condone shortcomings and actively struggle to eliminate them most rapidly.

Comrade communists! the collegium of the Ministry of Civil Aviation, in examining the draft of the Basic Directions for economic and social development of civil aviation from 1986 to 1990 and the period up to the year 2000, has

expressed firm confidence that the sector's command and management personnel and all civil aviation workers, under the guidance of party organizations, will do everything incumbent upon them to ensure successful fulfillment of the targets stipulated and will make a worthy contribution to realization of the party's long-range economic strategy.

We, the communists of the central organization--the headquarters of our sector--should be first in the forefront of this work.

[Statement by] S. Dikov, secretary of the party organization of the Main Administration of Aviation Work and Transport Operations:

The results of the 6 months attest that a great deal of work has been done to ensure fulfillment of production targets. The 6-month plan has been fulfilled in all indicators. In the process, aircraft commercial loads were increased by 0.9 percent. However, we cannot forget about the shortcomings and unresolved problems which still exist.

We have not been able to accrue a great deal of flight time in the Il-86 at this time. The reasons are the clearly defined seasonal fluctuation of the air routes being served and their short distance. Without re-examination of the airport network, and perhaps the norms for operating Il-86 aircraft as well, it will be extremely difficult to significantly increase efficiency in its use.

A promising means is concentration of the Il-86 fleet at a number of large aviation enterprises and joint operation of them by several civil aviation administrations. This will require changes in the economic indicators for evaluating transport operation, but at the same time, opportunities will be expanded for using this type of aircraft and operations enterprises will have more interest in carrying out operations to prepare the Il-86 for service.

[Statement by] Yu. Darymov, chief of the Education and Training Establishments Administration and member of the party committee:

The Ministry of Civil Aviation is devoting continuous attention to personnel training. The network of educational institutions, the number of specialists in the sector, and regular review of this matter in the collegium and the party committee attest to this.

I will dwell on certain problems from the broad group which relate to personnel training. The first one is determination of the requirement for personnel, for manpower resources, in the period up to the year 2000 by designation, specialties and regions. All this should go into the plan for social development of both the sector and each civil aviation subunit, and educational institutions should receive an order for specific categories of specialists.

Recruitment for educational institutions is in full swing at present. However, not one of the administrations where these persons will be going has asked about the status of the recruitment. Staffing is poor in the Kazakh, North

Caucasus, Tyumen and Far East administrations. There are no undergraduates from civil aviation plants. Vocational orientation and preparation of youth for training in civil aviation educational institutions still do not receive the proper evaluation when the work of administrations is given a comprehensive check.

The next problem is the quality of personnel training, since high professionalism should be characteristic of every aviator.

The communists of our administration have apprehended with great responsibility the directive of the minister of civil aviation and the decision of the collegium to entrust to us the methodical guidance of the entire system of training, retraining and increasing the skills of the sector's workers.

[Statement by] V. Latyshkov, secretary of the party organization of the Scientific and Technical Main Administration:

A draft of the comprehensive special-purpose program to reduce manual labor in the sector from 1986 to 1990 and the period up to the year 2000 has been worked out by specialists of the GlavNTU [Scientific and Technical Main Administration], jointly with institutes. As a result of its implementation, the labor of more than 26,000 persons engaged in manual operations will be mechanized.

One of the principal directions for us is work to economize fuel and power resources. Standards are being developed for fuel and oil consumption in aircraft operation, abolition of warmups for certain types of engines in specific procedures when aircraft are being taxied, optimization of the regimes and altitudes of flights, and so forth. A number of programs have been developed to economize fuel.

Work by inventors and innovators in the sector, directed by GlavNTU communists, is producing positive results. In just 3 years of the five-year plan, the savings from use of inventions and efficiency suggestions have amounted to 110 million rubles.

At the same time, there are still many shortcomings in our work. They were noted in the resolution of the MGA party committee, which recently reviewed the activity of the administration's management and its party organization to accelerate scientific and technical progress in civil aviation. All communists in the administration have taken an active part in putting together a broad plan of measures to eliminate the shortcomings.

[Statement by] A. Timofeyev, deputy chief of the Flight Service Administration:

Today I would like to dwell to a greater extent on those problems and shortcomings which impede the work.

We have an extensive field of activity in which communists and the entire collective of the Flight Service Administration direct their efforts. The demands made upon candidates for retraining in new technology have been reviewed, taking education and category into account, and effective measures have been undertaken to reinforce the stability and teamwork of aircrews.

Steps are being taken to raise the level of crews' occupational training, and a decree has been prepared on methodical flight work in civil aviation, which embraces in a single system all the units of flight service, methods centers, educational institutions and the GosNII GA [State Scientific Research Institute of Civil Aviation]. Briefly, a great deal is being done to improve the quality of flights.

But there is still more to be done. Even if we take the task of reinforcing the occupational skill of aviation specialists. We need procedural simulators, new-generation simulators which make it possible to conduct all forms of training exercises with high quality. It is necessary to accelerate the development and equipment of facilities for objective supervision of PANKh aircraft, especially helicopters.

[Statement by] A. Stepanova, chief of a department of the Labor Organization and Wages Administration:

The UOTiZ [Labor Organization and Wages Administration] collective, and the communists first of all--devotes continuous attention to improvement in labor indicators, norm-setting and wages, and to reduction of the cost of the management organization.

One of the important directions in this work is the fact that when one alternative or another is selected in allocating capital investments and improving the technical level of production at aviation enterprises, it is necessary to take into account the degree of effectiveness of their influence on labor inputs. However, insufficient attention is being devoted to this locally at present. There are many other weak points in the work: incomplete planning, unsubstantiated plan adjustments, underevaluation of the brigade form of labor organization with payment for the end result, and inefficient, slow introduction of standard plans for organization of work places. Helping to set this work right is the direct responsibility of our administration's collective.

[Statement by] Ye. Bubnov, secretary of the MGA party committee:

A decisive condition for realization of all our plans will be the broad development of aviation workers' initiative and creativity and their active involvement in resolving the main problems confronting the sector. The crucial tasks of civil aviation require decisive improvement in the level of managing all aspects of organizational and political work in the ministry's organization. This leadership should be inseparably linked with improvement in the selection, placement and training of personnel and with improvement in the style and methods of activity of party organizations.

In resolving personnel problems, the party committee persistently follows a clear and fundamental line: political maturity, competence, the ability to organize the work and, as a result, authority in the collective--these are the indispensable qualities of a manager. The majority of our leading employees are true organizers and trainers of the collectives who have a good overall education and political and specialized training. An effective method of monitoring the work of personnel and the state of party and state discipline is to listen to the communists at a party committee meeting.

At the same time, we should not evade those problems which have remained incompletely resolved. I think that we as communists should recognize that fundamental improvement still has not been made in the style and methods of our work in selecting and training personnel.

In implementing the most complex tasks of the sector's economic and social development, an important role belongs to our primary party organizations. Taking the significant experience of their practical activity into account, we can state with good reason that the communists of the sector's headquarters will take every step to reinforce influence on the work of collectives for the unconditional fulfillment of the state plans and socialist obligations as they constitute the prospects for continuing improvement in civil aviation.

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CIVIL AVIATION

'AEROPROYEKT' INSTITUTE'S WORK IN AVIATION FACILITY DESIGN

Moscow VOZDUSHNYY TRANSPORT in Russian 31 Jul 84 p 3

[Article by V. Ivanov, chief of the GPI and NII GA "Aeroprojekt" [State Surveying and Planning and Scientific Research Institute of Civil Aviation] and candidate of technical sciences: "Plans Being Realized"]

[Text] Many important projects have been established and put into operation in the sector in recent years. The air terminal complexes at the Vnukovo, Tallin and Sheremet'yevo airports, with their large capacity and high level of passenger service, have to be included among these first of all. Runways in regions of the North and the Far East, as well as in the European part of the country, to accommodate modern jet aircraft have been built and renovated. For the first time in domestic airport construction, highly productive concrete-laying machines have been used to build runways, which has made it possible to substantially reduce the periods required to lay concrete airport pavement.

Experience accumulated in the use of containerized transport on cargo aircraft has demonstrated that utilization of new mechanized facilities will make it possible to increase labor productivity in loading and unloading operations by 1.5 times as much and reduce aircraft downtime to half as much.

The creative search, talent and energy of the collective of the State Surveying and Planning and Scientific Research Institute, Aeroprojekt, and its branches are behind each one of the facts of life in the sector which have been cited. For almost five decades now the sector's planners--scientists, engineers, surveyors, designers--have been making their contribution to the sector's development.

The Central Surveying and Planning Office of the Main Administration of the GVF [Civil Air Fleet], which was named "Aeroprojekt," was formed in October 1934. Vnukovo Airport, the first in the new era of domestic airport construction, was planned and built in the prewar period, along with many other projects. When it was established, the principles of planning, construction and operation of all the new civil aviation projects were verified and mastered; here new ideas were also verified in practice, new solutions were carried out, and new standards were established.

During the Great Patriotic War, many Aeroprojekt staff members were sent to military districts and the army in the field. They carried out headquarters assignments for surveying, planning and construction of the frontline and rear area airfields, utilizing knowledge and broad experience to provide for energetic actions by Soviet military aviation.

In accordance with a decision by the State Defense Committee, a large group of specialists provided for the planning and establishment of the Krasnoyarsk-Uelkal' air route. In the shortest possible periods of time, base and alternate airports were built under the adverse conditions of the Far North, in regions of permafrost and without any roads; the air route, 5,000 kilometers long, was in operation without interruption up to the victorious conclusion of the war.

When the days of peace arrived, Aeroprojekt was actively included in operations to rehabilitate the network of airports, aircraft maintenance enterprises and educational institutions. Together with the creation of project plans to restore the airports and other facilities which had been damaged in the war, intensified surveying and planning operations were carried out to build new installations.

With the appearance of fast turbojet and turboprop aircraft on the airways, a qualitatively new stage began in the development of Soviet civil aviation. The need to establish conditions for ground support for the new aircraft and the increasing volume of air transport required high organization of surveying and planning operations by specialists, reduction of the periods for their implementation and an increase in the level of solutions proposed. This was the time that advanced new developments, designs and materials were introduced, taking the long-term development of Aeroflot and the achievements of science and technology into account. With the aim of resolving these large-scale problems in the best way possible, the Central Surveying and Planning Office, Aeroprojekt, also was changed in 1959 to the State Surveying and Planning and Scientific Research Institute with the same name.

Aeroprojekt now is a specialized complex institute which carries out a large volume of surveying and planning operations for the construction of civil aviation projects, provides a high level of engineering and planning and layout solutions for buildings and facilities, and contributes to accelerated introduction into practice of the achievements of scientific and technical progress by enterprises. The latest technology and equipment which provide for step-by-step automation of the technical processes of air traffic control, navigation and landing and improvement in flight regularity and safety are being developed at the institute.

Highly productive automated systems for centralized refueling of aircraft have been built at a number of the major airports.

During the years of the 10th Five-Year Plan, 450 scientific developments were introduced, including a combination of facilities for cargo container shipments, an overall passenger information system, and proposals for developing airports as a whole throughout the country and in individual economic regions up to 1990 and the year 2000.

The Aeroprojekt collective and five of its branches are continuing work successfully in the 11th Five-Year Plan. Plans for planning and research operations in the 1981-1983 period were fulfilled in accordance with all indicators. Labor productivity over these years increased by 7.7 percent at the same average wage level. The profitability of surveying and planning operations increased substantially. Profit amounting to 1.8 million rubles was obtained over the 3 years by the institute and its affiliates.

In light of the decisions of the February and April (1984) plenums of the CPSU Central Committee, important tasks are facing the institute, primarily every possible improvement in the quality of projects turned out, increased efficiency in developments, and the introduction of scientific and technical achievements.

About 30 percent of the operations in 1983 received the "excellent quality" evaluation upon approval. However, this result cannot satisfy us; the collective's efforts now have been directed at achieving higher quality for planning estimates by turning in 40 to 50 percent of the developments with an "excellent" evaluation.

Today, based on application of scientific and technical achievements and the best advanced planning solutions in projects, it is necessary to bring about further reduction of the estimated cost of construction, a savings in construction materials, and a decrease in the materials-intensiveness of construction. Broad utilization of computer technology and introduction of an automated planning system will contribute to a large extent to improvement in the quality of projects, an increase in labor productivity by employees of planning organizations, and reinforcement of economy in material and manpower resources. The task is to bring the level of automated planning operations up to 15 percent in 1985.

During their years of work in the institute many specialists--architects, engineers, scientists, designers--have accumulated wide experience and knowledge and have acquired the ability to find new, more efficient and progressive solutions in planning. They are energetic, seeking, concerned persons who are devoting their efforts to the further development of Aeroflot.

Our veterans are passing on the baton of knowledge and experience to the young specialists. V. Lokshin, deputy chief of the institute for scientific work; B. Grechishkin, chief specialist and bearer of the Order of Lenin; A. Fedotov, deputy chief of a department; and others have been working successfully for over 30 years. The staff of the institute includes a doctor of technical sciences and 44 candidates of sciences, and 75 persons are studying in VUZ's without discontinuing production.

A great deal of work is being conducted with young specialists. The young people's yearning for knowledge is being supported in every way possible by the management and the party, trade union and Komsomol organizations of the institute. All questions related to the life and activity of the collective and the education of specialists are in view of the party organizations, which enables the collective to achieve constant labor successes year after year.

Large air terminal complexes are being erected or planned for construction at present in accordance with the institute's plans at airports in Ashkhabad, Baku and Karaganda, as well as an automated cargo complex at Sheremet'yevo-2, and runways are being built and renovated at the Vnukovo, Gorkiy, Novosibirsk and Sverdlovsk airports.

Work is continuing in accordance with the planning of civil aviation projects for Cuba, the People's Democratic Republic of Yemen, the Mongolian People's Republic and Afghanistan.

In welcoming the institute's 50th anniversary, the collectives of planning and scientific departments have made increased socialist pledges and are now exerting every effort for their successful fulfillment.

8936

CSO: 1829/367

CIVIL AVIATION

SUKHUMI AIRPORT RUNWAY MODIFICATIONS

Moscow VOZDUSHNYY TRANSPORT in Russian 19 Jul 84 p 1

[Article: "Both Meters and Seconds"]

[Excerpt] The fact that persons wash themselves each morning does not surprise any of us. We also know that aircraft are cleaned in the morning from time to time as well. But you will not often see a runway "washed" in the morning, and day after day at that. Nevertheless, the Sukhumi Airport runway receives just such a morning cleaning every day now.

...The time is 9:45. We are standing on the concrete strip, which in the rays of the southern morning sun somehow seems particularly bright and festive. The vehicle of the director of flight operations is next to us. On its radio we hear transmissions on the approach and pattern channels between controllers and aircraft in the airport traffic area. Two aircraft are approaching Sukhumi and one is already in the pattern.

"It has arrived a little early," Yu. Latariya, commander of the Sukhumi aviation enterprise, says of the latter. "The crew did not calculate time enroute accurately. It has arrived early, and we cannot take it yet."

It is really quite impossible to accommodate the aircraft. The runway is occupied by construction and road vehicles and machinery. There are quite a few persons on the runway. And it is unlikely that they are planning to leave it in a hurry for now.

"How can this be?" any aviation specialist will ask. "There are aircraft in the air, including in the pattern, and they are not rushing to vacate the runway."

A paradox? Not at all. Because construction and installation operations on the Sukhumi concrete are proceeding strictly according to plan, in accordance with a precise schedule calculated in minutes.

This year the Sukhumi Airport runway is being reborn: it is over a kilometer longer and is wider as well. This reconstruction is being carried out so that next year the airport will be able to accommodate the Il-86 air giant, as well as Il-62 and Tu-154 aircraft. And the pouring of concrete slabs is

being continued and other construction and installation operations are being carried out intensively on the western section of the runway. But "cosmetic" operations, so to speak, are under way in immediate proximity to the part of the runway being worked on, and even partially on the runway itself.

But after all, today, at the very peak of the air transport traffic period, it is impossible to cut off such an important "warm" point on the Caucasus Black Sea coast as Sukhumi from the technical process of southern passenger flow. This is why the decision was made to close Sukhumi Airport from 6:00 to 10:00 for 10 days beginning 9 July, to carry out reconstruction operations on the runway.

8936

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CIVIL AVIATION

BRIEFS

DUSHANBE-SHAYDAN AIR ROUTE--Dushanbe--A new Aeroflot route has been opened in the mountainous region with a trial flight from Dushanbe to Shaydan, flown by I. Kudinov, A. Levitskiy, A. Slanov and A. Rakhimov, pilots of the Tajik Administration of Civil Aviation, in a Yak-40 aircraft. It connects the virgin lands of Ashtskiy Rayon, which are being intensively developed and where a large base for the production of raw cotton is planned, with the capital and other industrial centers in the republic. The local airport, which meets all the necessary technical requirements, was built by the PMK-9 collective of Tadzhikirsovkhozstroy in accordance with the five-year plan for development of the republic's national economy. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 10 Jun 84 p 1] 8936

PETROZAVODSK-SYKTYVKAR AIR ROUTE--Petrozavodsk--Regular flights by An-24 aircraft have begun on the Petrozavodsk-Syktvykar route. Until now, air passengers from the capital of one of the autonomous republics to the capital of the other have been compelled to reach it by way of Moscow, Leningrad or Vologda. No less than a half-day was being spent to fly that route. But now the time has been reduced to one-third as much. [Text] [Moscow TRUD in Russian 20 Jun 84 p 1] 8936

ODESSA-KHABAROVSK AIR ROUTE--(TASS)--The first air link between Odessa and Khabarovsk has been opened. A Tu-154 airliner flew the first vacationers from the banks of the Amur to the sanatoriums of the Black Sea resort--construction workers of the Baykal-Amur Main Line, geologists and fishermen. Now the hero city has been linked by air bridges with large industrial centers in the North, the Far East, the Urals and Central Asia. This year its airport will accommodate more than a million passengers. [Text] [Moscow VOZDUSHNYY TRANSPORT in Russian 26 Jun 84 p 1] 8936

SECOND TBILISI RUNWAY--Tbilisi--It had become cramped at the Tbilisi airport, which has only one runway. Precisely because of this it was decided to begin construction of a second one. The new runway, according to the planners' conception, will be able to accommodate all types of aircraft. At present, construction has just begun. The volume of earth-moving being proposed is 5 million cubic meters of hard ground. The most modern equipment has been involved in the construction. Through the windows of the airliners taking off and landing, the passengers see dozens of powerful dump trucks, bulldozers, scrapers and power shovels. Soon, at the same time that foundation of the future runway is prepared, construction workers will begin laying the concrete on its bed. With introduction of the second Tbilisi runway, planned for 1986, flight regularity will be improved and the capacity of the principal airport in Georgia will be increased. [Text] [Moscow VOZDUSHNYY TRANSPORT in Russian 10 Jul 84 p 3] 8936

RYAZAN AIRPORT RUNWAY EXTENSION--Trucks with trailers loaded with sand and gravel pass through the gates of the airport and head for the airfield. Entry here next to the runway is prohibited for other transport. These dump trucks belong to the specialized SMU-42 of the Ryazan'spetsstroy, general contractor for the construction. For about 4 months now they have been hauling materials for renovation of the Ryazan airport runway. The layer of asphalt is now being increased, and a "trough" is being prepared for extension of the runway. It is assumed that the residents of Ryazan will be receiving new L-410 passenger aircraft; in this connection, the runway will be lengthened. The estimated cost of the operation is over 1 million rubles, of which 400,000 rubles are planned for assimilation by the end of this year. Construction of the runway should be completed next year. When the new aircraft are received, Ryazan aviators will be making longer flights--to Leningrad, Minsk and other points. [Text] [Moscow VOZDUSHNYY TRANSPORT in Russian 28 Jun 84 p 1] 8936

IL-86 FLIGHTS TO VIETNAM--Ho Chi Minh City (APN correspondent)--Ho Chi Minh City has become one more city in the Socialist Republic of Vietnam, following Hanoi, where Aeroflot's Il-86 flagship lands regularly. They have been prepared to greet this aircraft here for a long time. As far back as April, M. Trofimov, Aeroflot's representative in Ho Chi Minh City, together with the airport manager, (Tanshonnyat Fan T'yung), put together a plan to prepare to receive the new aircraft which was realized in stages. They familiarized the Vietnamese airport service specialists with the features of the Il-86 and provided them with the appropriate technical specifications. They studied the experience of its operation in Moscow and Hanoi and resolved the problem of using mechanized materials-handling facilities. With V. Parshin, commander of the Il-86 detachment of Aeroflot's Central Administration of International Air Communication, a taxiing pattern was worked out and a place was specified for passenger boarding. "There are a number of reasons for the appearance of Aeroflot's wide-bodied aircraft on this route," says M. Trofimov. "Soviet-Vietnamese ties are becoming stronger and developing every year. They make increased demands on transport workers as well, and on us, the aviators, in particular. With the beginning of Il-86 operation, the demands for transportation by Soviet specialists working in the Socialist Republic of Vietnam, tourists, and Vietnamese students studying in the USSR will be met. The volume of mail and air freight will be increased." [Excerpt] [Moscow VOZDUSHNYY TRANSPORT in Russian 7 Jul 84 p 3] 8936

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MOTOR VEHICLES AND HIGHWAYS

DESIGN, RESEARCH FACILITIES AT MINSK MOTOR VEHICLE WORKS

Minsk PROMYSHOENNOST' BELORUSSII in Russian No 4, Apr 84 pp 46-48

[Article by P. Viktorov: "At the Speed of Sound"]

[Text] From time to time, sending a complex vehicle, one on whose development years have been spent, to be scrapped is not strange and not uneconomical, but objectively necessary. This is done in order to reveal possible defects in it and to eliminate them as quickly as possible.

Minsk motor vehicle plant designers cause vehicles to "break down" very quickly, and just as quickly find the reasons for the faults. They are helped in this by automation and computer technology.

Testing, as we know, is a necessary and very important stage in the development of a new vehicle. Before an automobile is recommended for full-scale production, it must cover thousands and thousands of kilometers.

A problem in an experimental model is not even a chance, but a regular occurrence. Let's imagine that the steering, spring, and brakes on an experimental automobile break down in turn... That means everything has to be begun from the beginning. Each of these assemblies consists of a multitude of parts, and if one "breaks" them in turn on a finished, assembled automobile the operational development process will take many years. There is only one alternative: to test a vehicle in the disassembled state, by systems.

The Minsk motor vehicle plant's proving grounds is not large. This is an ordinary production sector in one of the experimental shops. Here MAZ [Minsk Motor Vehicle Works] trucks cover hundreds of thousands, and even millions of miles without leaving the factory gates. And this not only on asphalt, but on country roads, gravel, and in roadless conditions as well...

However it is difficult to imagine a section of road that could stress an automobile as fundamentally and methodically as, for example, the stand for inspecting the frame. Nearby (also on a special stand) a brand new MAZ cab is "shaking", and a little further powerful hydraulic cylinders rhythmically, like athletes in training, are bending springs. It is difficult even to enumerate all the stands; there are more than 60 of them. The inspection of every "bone" in a modern automobile is entrusted to them.

Incidentally, today the calculated life of a MAZ vehicle (in other words the total distance logged before it wears out) is 400 thousand kilometers. Naturally, with such performance the designers strive to guarantee every assembly in the vehicle. The ideal variant is when the parts of a vehicle "break down" simultaneously. This reduces expenditures on repairs noticeably. It has been calculated, for example, that over the period of operation the case of the rear axle withstands about two million cycles of peak pressure, after which the metal must unavoidably deteriorate. Under conditions of actual use this happens no earlier than after five years. On the stand the case is "broken" in two weeks. Moving at the speed given here, a vehicle could circle the globe in one day--becoming not merely a MAZ, but a supersonic plane!

However a reduction in testing time is not a goal in itself. It is important that the load to which the metal is subjected under a forced regime correspond precisely to the conditions of actual use. It is clear that a computer is indispensable here.

The factory's most modern testing complex unites several stands at once. Their uniform working elements (hydraulic cylinders) allow such assemblies as steering control, cases, cabs, torque rods, and hubs to be tested simultaneously. Each stand is autonomously controlled by a mini-computer. But they are all connected together by a common "brain" center and a complex system of hydraulics. An hour, two, a whole shift will go by and we may never see people in the section; there is simply nothing for them to do here. And an ordinary stand requires the constant attendance of a tester, who gives it the necessary directions and keeps track of instrument readings...

We will note that this is not at all the only and far from the chief effect produced by automation of testing processes. Ultimately, stands (manual or automated, autonomous or united in a complex) are not new. The information collected here, as before, must be processed; the value of tests is first of all in this.

And what is information? Breakdown is only the simplest case. And if, we'll say, it is necessary to estimate the driver's working conditions (very strictly stipulated, incidentally, by Soviet and international standards)? Or the frame's stressed condition at tens and hundreds of points? In both cases the information obtained not so long ago represented endless rolls of perforated tape, the processing of which took months. The testers simply could not keep up with the designers.

The first automated stand was established several years ago in the AN BSSR [BSSR Academy of Sciences] Institute of Technological Cybernetics for automobile plant workers. More specifically it is an "on board" computer complex, which allows not only the recording, but also the processing of information in motion, as they say. Not everything succeeded at once; at first the apparatus did not withstand the extensive vibration and broke down. Later, with the help of specialists from the Minsk Scientific Research Institute for Means of Automation, this problem was solved. Now the instrument has achieved recognition in many of the country's motor vehicle plants and has been distinguished with medals at the USSR VDNKH [Exhibit of National Economic Achievements].

The next agreement was concluded to establish an entire system of automated processing of test results. And although scientists already had experience establishing a similar system at the Volga Motor Vehicle Plant, their idea was not immediately adopted at the Minsk Motor Vehicle Plant. After all, what was it like before? Every KIB [Design-Research Bureau] conducted research independently. Having received a vehicle, they covered the necessary assembly with gauges, took readings, recorded them, and processed the results... On the one hand, every bureau is "its own master". And on the other, they "managed" unskillfully and used the equipment impractically. The testers worked under constant pressure, fearing for every analyser and every reel of tape; the slightest damage to the apparatus threatened the results of their work.

How do things stand now, after the establishment of a unified computer center? It is still not long ago that a good ten specialists were involved in processing information, now one or two handle this job. With this the speed of processing and the volume of information have increased manyfold. The utilization of testing equipment and computer technology have improved. If before, as happened, magnetic tapes awaited access to the computer for months, now information goes immediately into the computer memory along several channels simultaneously. The testers are spared routine calculating operations, and they have more opportunities to be involved in the business at hand--conducting research. As a result the culture of experiment has risen and the reliability of results has increased. This was not long in affecting the effectiveness of the designers' work as well.

Nor is it unimportant that computer technology no longer gives rise to distrust, as was the case, on the part of the designers, and that it has become their reliable helper and usual "tool". For example, with the help of the testers the Minsk auto plant workers, for the first time in the field, developed the design for a unified steering mechanism intended for MAZ, KRAZ [Kremenchug Motor Vehicle Works], and URAL automobiles and all Soviet buses and trolley buses. Last year the Borisovskiy Avtogidrousilitel' plant organized production of the new steering mechanism. This mechanism is already being installed on new KRAZs and MAZs of the potential family.

Also for the first time in the field, the Minsk workers have organized production of a punched-welded rear axle case instead of a cast one. It was not easy to achieve this; for a long time the welded joint did not bear the load and cracked first in one place, then in another. "However, 'a long time' is now a relative concept for us," maintains design engineer A. Gologush, one of the performers of the work. "If the case had to be installed on a car and tested under actual conditions, the operational development process would go on for years. And on the stand we obtained results in three days. A new method of hardening was chosen, and again tested. As a result the longevity of the case was extended to the necessary level in just one year".

"A system of automated analysis of research results has been in operation in the office of the chief designer of MAZ since 1981. But this is only the first stage of the work stipulated by our agreement with the AN BSSR Institute of Technological Cybernetics," says A. Vygonnyi, scientific secretary of the Avtofiztekh union and chief of the scientific-research laboratory of the office of the chief

designer. "In the second stage, which should be completed soon, we plan to develop reserve systems of control for experiments and tests. This means that the computer will not only follow a program once assigned, but will control the course of the experiment and change the testing conditions when necessary. Then we will study the methodology of accelerated tests and prediction of results. Soon we plan to install a second, more powerful computer. In a word, we have begun to enjoy this..."

It remains to add that not only automobile builders have become aware of the effectiveness of the completed work. Here in the testing department of the office of the chief designer on more and more often meets representatives of the Institute of Technological Cybernetics, INDMASH [Institute for Problems of Reliability and Longevity of Motor Vehicles], the AN BSSR Institute of Applied Physics, and other institutes that are part of the Avtofiztekhn union. The automation of automobile testing processes, a purely industrial problem, gave a powerful impetus to the solution of certain scientific problems as well. For example in the field of understructure monitoring.

Here is what Ivan Mikhaylovich Gorbatshevich, chief of the testing department of the office of the chief designer at MAZ (who, incidentally, completed his postgraduate work at the AN BSSR Institute of the Reliability and Longevity of Vehicles, and prepared his dissertation specifically on testing problems) says, "Today, in order to get a complex evaluation of the stressed condition of, say, a cab, we have to use several hundred gauges simultaneously. Two wires have to be soldered to each one. Add to this the development of a most complex system, power units, meters... With the best intentions there is much that you will not automate. And now imagine that the tester, like an artist, covers the metal with a coating of "magnetic spots". It has been established that the magnetic properties of metals change depending on the load applied to them. This means that, controlling the residual magnetism of the parts, we can get along without gauges. In other words, someday we will send a truck on an ordinary working route without a single meter. After its return we will be able not only to determine what kind of load the assemblies have been subject to, but also to forecast possible damage. Of course, so far this is only speculation. But the magnetic permeability method (or residual magnetic field) that we are studying in conjunction with scientists from the AN BSSR Institute of Applied Physics opens up just such a potential to the testers. This is essentially a new scientific trend in the field of non-destructive testing".

They are also satisfied with the results of the work at the Institute of Technological Cybernetics. Those times are gone when designers (the "mechanics") looked at scientists (the "cyberneticians") with distrust. Now another word is more appropriate--colleagues. It is true, as V. Pet'ko, chief performer of the work and senior scientific fellow at the institute, admits, that the partnership with the motor vehicle plant required certain reorganization on the part of the scientists as well. If a researcher can usually suspend his work in order to reflect on it, now there can be no such respite; a concrete result is required at a strictly determined time. Under such conditions (as close as possible to industrial needs) several young scientists have been trained in the institute who are now capable of solving the most complex problems.

And there is still much ahead of them. In establishing systems of automated vehicle design, essentially only the first step has been made. And it was made not from the initial, but from the finishing stage of vehicle development. Such is the logic of production: fundamental efforts are directed where the maximal effect can most quickly be obtained. The reliable and timely result to the experiment, as the experience of the testers teaches us, is the very first token of the success of the entire project.

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MOTOR VEHICLES AND HIGHWAYS

ASSEMBLY DEFECTS IN GAZ-52, GAZ-53 TRUCKS

Moscow SOVETSKAYA ROSSIYA in Russian 17 Jun 84 p 2

[Article by special SOVETSKAYA ROSSIYA correspondent S. Taranov, Gorkiy, Penza Oblast: "An Examination on a During the Transfer Run: A Critical Report from the Cab of a Gorkiy Truck"]

[Text] It is customary to believe that a new motor vehicle is better than an old one. Until recently, I also thought so, but an out-of-town work assignment to the Gorkiy Motor Vehicle Plant forced me to reconsider this point of view. But in any event, the workers of the enterprise who are engaged in ferrying the motor vehicles do not share this point of view. We should listen to them because they examine nearly half of all the trucks that come off the assembly line of the famous motor vehicle plant.

Behind the gates is a vast area obstructed by rows of trucks for show. It seems you can open the door of any one, sit in the cab which still smells of paint and glue, and head out. If only here in this one, there is nothing distinguishing it from its fellow GAZ-53's.

"You can in this one too," the transfer driver agreed with the eighteen-year-old trainee Boris Nikiforov, smiling skeptically.

He leisurely pulled on the greasy coveralls. He opened the heavy tool box with a set of different-sized tools and...became absorbed in his work. It lasted 6 hours. Boris tightened down the axles and wheels, servo brake and under-hood electrical wiring, seats, headlights and other motor vehicle "stuff".

We did not start on our journey until the next day.

By no means would you call the 700 kilometers which separates Gorkiy from our destination--the village of Grabovo, Penza Oblast--pleasant in every respect. I remember that at the 34-kilometer mark Boris spent 40 minutes adjusting the engine valves which had been tightened down by some kind of athlete. At the 96-kilometer mark pungent rubber smoke began to pour into the cab--an incorrectly installed gasket was burning. Then a door lock broke and for the remainder of the trip we used only one door, as we had to wind steel wire tightly around the other one. There also were meetings on the road. At the

416-kilometer mark, a fellow transfer driver was baking in the sun: "The engine siezed up...."

But perhaps we, like those we met along the road, were simply not lucky?

"Luck has nothing to do with it," says A. F. Kochnev, chief of the technical control department of the transfer driver enterprise.

We met Aleksandr Fedorovich, after returning from Grabovo to Gorkiy, at the receiving point of motor vehicles that had just left the motor vehicle plant. A nervous line of people were making noise at the gates. These were the drivers whose earnings depend on the number of vehicles delivered from the enterprise and they hurried the "penetrating" examiners. The inspectors did not have iron nerves either, moreover it is a large plan--500 vehicles per day.

"In fact, we examine 700-800 each," Kochnev complains. "Sometimes we send every other vehicle for additional work. At times it reaches the point of absurdity; we will sent out a motor vehicle in the afternoon, but they return it at night, without having correcting anything."

In the first quarter of 1984, 30,713 motor vehicles were received by the incoming control--60.3 percent of them at the first submittal, 35 percent at the second and 4.7 percent are finally returned to the plant....

So, nearly 40 percent of the GAZ-52 and GAZ-53 truck models are produced with flaws. The transfer drivers send them for plant alterations for purely practical reasons: it is unsafe to leave on a trip in a defective motor vehicle. Nonetheless, their troubles are merely a small part of those which befall the customers scattered throughout the country. You see, only the vehicles rejected by the transfer drivers are corrected at the motor vehicle plant. The remaining ones--150,000 annually--go directly from the assembly line to the railroad flatcars and river barges. "Take me as I am," appeals a brand-new "disabled" motor vehicle, being parked somewhere at a remote kolkhoz.

At the USSR State Committee for the Supply of Production Equipment for Agriculture--one of the main customers for the GAZ-52 and GAZ-53--they never said what the economic damage is from the plant flaws in workmanship. They simply do not calculate it there.

So, what is wrong? Why is a considerable part of the output of the famous motor vehicle plant going to the consumer without being ready for operation? I had a talk with the deputy chief of the technical control administration of the GAZ Association, N. F. Demin, in the truck assembly shop near three moving assembly lines.

"You see," Nikolay Fedorovich explained, "most of the assemblers are temporary, unqualified people and the personnel shortage is especially great in this section. Hence, the mistakes and the imperfections. We can correct them on a special finishing assembly line, if, of course, they are detected before this. How? By using a simulator. The vehicle rolls for dozens of kilometers on rollers built-in to the floor and as this goes on, its weak

points are identified. Then they are eliminated by defect-mechanics. Only after numerous checks can the truck be given the right to be called a "product of the Gorkiy Motor Vehicle Plant". This is exactly how the technical control department gives the GAZ-66 motor vehicles a start in life--we do not receive complaints and claims about this model....

They also echoed kind words about it at the transfer driver enterprise. The right to drive a "66" is considered as an incentive here. So why not spread this experience to the production of all truck models?

"This is not possible," says M. A. Doronin, chief truck production engineer. "We will have trouble with every truck--the plan will suffer. Moreover, we are only talking about the quality of assembly!"

Curious logic. It seems there is no need to fuss about quality if you have an uncomplaining customer who has no choice. There is and cannot be any excuse for defective output. This truth is perfectly well known to the Gorkiy truck builders, which is indicated by the albeit special finishing assembly line for eliminating assembly defects on GAZ-52 and GAZ-53 vehicles. The trouble is that it is not running and never has; it is used as...a parking area for vehicles awaiting finish painting. But Boris Nikiforov and such drivers like him are forced to take its responsibilities upon themselves.

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MOTOR VEHICLES AND HIGHWAYS

RESEARCHER URGES ACV'S FOR USE IN OIL REGIONS

Moscow IZVESTIYA in Russian 11 Jun 84 p 2

[Article by Candidate of Technical Sciences V. Shibanov, deputy director of the West Siberian Scientific Research, Planning and Design Institute of Deep Exploratory Drilling Technology: "Who Will Work on an All-Terrain Vehicle?"]

[Text] In late 1970, about 30 km from Strezhevoy, the first production tests of a drill site on an air cushion took place. The inventors of this new variation of transport were young specialists (including me) of the department of perspective rigging-up operations of the Surgutburneft' Trust. I remember when we, fervent advocates of building air cushion vehicles (ACV), first showed up in Tyumen, at the petroleum main administration they immediately asked us:

"Will you raise the derrick?"

We raised it, but that was merely the first step. The second serious test--it took place in Nizhnevartovsk in forty-below weather--brought new troubles. It became clear that real success would come if three problems pertaining to a drill site on an air cushion were solved: stability, traction and controllability.

The tests near Strezhevoy had greatly inspired us. The 40-meter huge thing, weighing 160-180 tons, literally hovered above the ground and 1 tractor easily pulled it over the snow-covered plain. The tracks left a clear trail, but where the derrick floated--the autumn grass, freed from the hoarfrost, merely straightened itself up.

A little later, one of my comrades said:

"The tests were successful. That's good. But if there turns out to be swamps or a lake in the path and it is summertime, how do we pull the derrick? A tractor can't go there. By helicopter? It's possible, but expensive and troublesome. There's one way: we have to use aircraft jet engines that have used up their operating life. They will take the place of the fan, provide movement for the derrick, make it possible to maneuver...."

Unfortunately, the work since then has come to a standstill, but more accurately, the important matter has been skidding in place for a long time. Why? Let us try to figure that out.

Generally speaking, in the past 20 years air-cushion transport vehicles have advanced from the first clumsy test models to hundreds of models produced here by us and abroad. True, the vast majority of them are designed for travel over the water. On land, the "air vehicles" have stumbled, so that even in the tundra, with its extremely vulnerable cover, people travel in the old manner, on wheels and tracks, inflicting wounds on the land that do not heal for dozens of years. But, say, for the expanses of West Siberia, where they are developing deposits of oil and gas, self-propelled and towed transport units able to hover above the ground, easily surmount swamps and drifts and reach the most inaccessible points are sorely needed!

For now, there essentially are no such vehicles. Their builders have encountered a number of difficulties: a large power density was required, a reliable replacement which did not justify aerodynamic control surfaces, and you had to direct the apparatus on the air cushion to negotiate ditches, ravines, streams and slopes. This proved to be a difficult task. Besides, the main problem was not solved: Who would work on the new undertaking?

At first it was assigned to the motor vehicle builders. Many resources were spent before it became clear that air cushion vehicles were contrary to the basic direction of the sector--to build transport for roads. The agricultural machinery builders worked for a while on developing the new vehicles. Here too the "ugly duckling" was ill-suited--with relief they passed the novelty to the Ministry of Chemical and Petroleum Machine Building (Minkhimmash). The West Siberian All-Union Scientific Research, Planning and Design Institute of Petroleum Machine Building, located in Tyumen, literally were forced to study the problem under pressure from potential consumers--geologists, oilmen, and gas workers whose work was continually increasing in scale in the Ob River region, the polar region and in the Arctic. Having spent 5 million rubles, the Minkhimmash never finished the project (although, we will note, they have potentialities for building the most complex assemblies) and got rid of the problem by giving it to the builders of the Sibkomplektmontazh Association of the Ministry of Construction of Petroleum and Gas Industry Enterprises.

During this whole sad period they also relied on the aircraft builders. Here they did not consider the newborn to be one of their own either--lest it turned out to be a rival for the helicopters....

But the consumers are waiting, requesting and asking. By early 1984, enterprises of Tyumen Oblast alone had requested 640 self-propelled and 50 towed air cushion machines. Sibkomplektmontazh, naturally, is not able to satisfy even a small part of these orders. As they say, God grant it to provide its own units with air cushion platforms. Such units sometimes weigh hundreds of tons and often it is impossible to deliver them to the installation site, to the Far North, by any other method.

So, millions of rubles have been spent on developing a new, promising type of transport, but the cart, strictly speaking, is still there today. But can we blame the designers? It appears, rather, that we should feel a little sympathy for them, marvel at the enthusiasm, persistence and patience. In unadapted workshops, with their own hands they made and continue to make vehicle models which outwardly meet esthetic norms, successfully pass production tests (which, incidentally, IZVESTIYA has reported on more than once) and are heartily recommended for mass production. But then--an impasse. No one wishes to make them. Meanwhile, it was already quite possible to set up production of so necessary air cushion platforms, capable of transporting 20, 40, 60 and 100 tons of freight over any impassable roads, almost without touching the ground. They only had to set up the operational service and clearly define the novelty's place in the transportation network.

The Ministry of the Shipbuilding Industry designed and successfully tested an air cushion amphibious launch in Siberia, capable of travelling over shallows, tussocks and swampy lowlands. The Tyumen workers were very pleased with this craft: in the oil and gas fields of the north it could find a number of "specialties". So they had to have it--the ministry looks for manufacturers among the geologists, gas workers and oilmen and, meanwhile, it has a powerful shipbuilding plant which, as they say, it would be up to.

What attracts northerners to the ACV's? They could help to solve a number of problems connected to the shiftwork system, servicing oil and gas wells, moving the drilling derricks and delivering all sorts of cargo to remote points. They could make a reality such an age-old dream of the Siberians as year-round navigation on the countless rivers and streams.

The consumers are ready to purchase ACV's, just as they are now. Operation could expand their sphere of use and force them to be continually improved and perfected. Alas, there are extremely few of these vehicles. The need to organize planning, testing, production and operations of ACV's cannot be put off.

It appears, the USSR State Committee for Science and Technology had better examine this problem and participate in determining the general designer and manufacturer.

The freight platforms hovering over the ground with assemblies for oil and gas facilities, drilling derricks "floating" over land to agreed-upon places with an entire set of equipment, all-terrain crafts in the true sense with working shifts onboard--all of this is not a fantasy at all. It is a reality which is knocking on our doors. We must throw them open: enter the new!

12567

CSO: 1829/369

MOTOR VEHICLES AND HIGHWAYS

LACK OF NATURAL GAS FILLING STATIONS DELAYING CONVERSION

Moscow SOVETSKAYA ROSSIYA in Russian 6 Jul 84 p 3

[Article by V. Avdevich and A. Morev: "How Much Can They Argue?"]

[Text] The use of natural gas as a fuel in transportation is making it easier to solve many energy, economic and even social problems. The air of the cities and industrial centers is becoming cleaner, petroleum resources are being saved and the distance between motor vehicle overhauls is increasing. Every 12,000 cubic meters of natural gas--that is the average that 1 truck will use during 1 year--will conserve about 10 tons of gasoline, more than 50 liters of motor oil and sharply decrease the discharge of carbon monoxide into the atmosphere. Several years ago, a decision was adopted obliging many ministry and department administrators to create conditions for accelerated conversion of transport to gas fuel.

After the expiration of the deadline, however, it turned out that the outlined program was far from completion. Why? This was the topic of the report "Gas for the Motor", published on 20 January of this year. A constructive motor vehicle gasification program was presented in the publication. First of all, it is necessary to speed up construction of gas-filling compressor stations and to bring their number--as was established--to 25. By joint decision of all departments concerned, high-pressure gas cylinder examination points must be set up. Production of lightweight cylinders--of alloyed steel or composite materials--must be increased.

How did the ministry and department administrators react to the newspaper article? At the Ministry of the Gas Industry we talked with Deputy Minister S. S. Kashirov:

"How many motor vehicle gas filling stations have been put into operation since the beginning of the year?"

"One each in Moscow, Sverdlovsk and Chimkent. Late in the second quarter similar facilities were turned over in Leningrad, Gorkiy, Tashkent, Dzhambul, Minsk and Lvov. Altogether, there are nine stations."

"But, according to the six-month plan, shouldn't there have been two and a half times as many built?"

"Yes," the deputy minister agreed. "We are pretty far behind. There are objective reasons for that. First of all, the contract organizations of the Ministry of Industrial Construction continually miss the deadlines for building the stations. Secondly, the local government agencies pick out 'worthless' land for our installations and do not consider either the remoteness of the motor transport enterprises or the need for construction of additional gas outlets. The Kuybyshev Oblispolkom, by way of illustration, suggested a section at a dump. What would seem so peculiar about that? To build a station here, it would be necessary to haul out 80,000 tons of refuse and fill in the pit with about 100,000 cubic meters of dirt. The Gomel Oblispolkom did not show any personal interest either; it selected a section to which it was necessary to lay a four-kilometer gas pipeline. And this was not over land, but over the Dnieper River. So, huge expenditures of both resources and time are unavoidable."

Obviously, complications and problems arise during construction of any project. But does this mean that one must pretend that ordinary difficulties are insurmountable obstacles in order to relieve oneself of the responsibility for the frustration of an important matter? Of course not. By the way, there are examples of a different sort in the work practice of the Ministry of the Gas Industry. When the newspaper, developing the topic started in the article "Gas for the Motor", published the report "An Exchange of Feeble Reproaches" (SOVETSKAYA ROSSIYA, 20 April 84), the staff of the sector responded to it with very drastic measures. The material, you will recall, talked about the slow construction of gas filling stations in Leningrad. Among the reasons was the untimely and incomplete supply of compressor units. So, immediately after the publication, specialists of the Ministry of the Gas Industry met with their colleagues from the Ministry of the Chemical and Petroleum Machine Building Industry, and all problems related to the completeness and delivery of equipment for the stations were promptly resolved. It would be good to act with the same promptness on a broader scale.

There is another problem. According to the existing regulations, high-pressure containers must be tested periodically--once every 2 years. So, gasification of motor transport will require a centralized system of checking the motor vehicle gas cylinders. On instructions of the USSR Gosplan, this question was discussed at a meeting of a special commission which included representatives of the Ministry of the Motor Vehicle Industry, the USSR, the RSFSR Ministry of Motor Transport, the Main Administration of Motor Transport of the Moscow Gorispolkom and the Ministry of the Gas Industry. The first deputy minister of the motor vehicle industry, Ye. A. Bashindzhagyan, presided over the meeting. In the 26 March 1984 minutes, the commission recorded the following: "Taking into account the uncoordinated state of the fleet of motor vehicles operating on compressed natural gas, the diverse departmental subordination of the motor vehicle facilities, the complexity and uniqueness of the equipment needed to re-inspect the cylinders, as well as the high demands as regards the qualification of maintenance personnel, we consider it well-founded to organize the re-inspection points for motor vehicle compressed natural gas cylinders at the gas filling stations." It would seem that the issue was clear. However, the administrators of the Ministry of the Gas Industry came out categorically against the commission's proposal. The

ministry's representative declared: "We will not inspect the cylinders. This is the transport workers' job." Such an openly departmental position contradicts common sense which says that it is absurd to have numerous cylinder re-inspection points within the boundaries of one city or rayon. They must be centralized, set up at one place and be under a single control. The regulations of the USSR State Committee of the Council of Ministers for Supervision of Safe Working Practices in Industry and Mine Supervision require the same thing as well. It appears the USSR Gosplan will settle the dispute in favor of the interest of the entire national economy.

The gas filling compressor stations built in the country--with a capacity of 500 full fuelings per day--are designed to service 1,100-1,300 motor vehicles. In that case, the time has come to have a sufficient fleet of such vehicles. Just how does the production of them stand today? According to data of the Ministry of the Motor Vehicle Industry, the production plan for bottle-gas driven motor vehicles is not being fulfilled. One of the reasons is a shortage of gas cylinders. The USSR Ministry of Ferrous Metallurgy has been instructed to manufacture them. In a conversation with us, Deputy Minister N. A. Tulin confirmed that things are going slowly with cylinder production. For example, in May only 73 percent of the goal was met. But, he added further, the ministry is taking measure which will help complete the six-month program. Let us assume that this will all come to pass. But here is what is alarming: nearly all the cylinders are being made from carbon steel. That means that each of them will be half again as heavy as the same cylinder made from alloyed steel! Calculations of specialists and, above all, operating experience show that in this case the efficiency of motor vehicle usage will decrease sharply. The conclusion is obvious: the USSR Ministry of Ferrous Metallurgy and the Ministry of the Chemical Industry should jointly accelerate the development and production of lightweight cylinders made of polymer and composite materials, with improved weight characteristics. This is especially important for low-tonnage vehicles and automobiles.

As we see, the problems presented in the article "Gas for the Motor" for the time being remain unsolved.

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CSO: 1829/369

RAIL SYSTEMS

BRIEFS

IMPROVED SWITCH INTRODUCED--Murom (TASS)--A new switch design will increase train speeds on the country's busiest railway routes. The first lot of these new switches has been produced by the Murom Switch Plant. Passengers will notice the improvement over older switches: the wheels will no longer clatter when the train crosses from one track to another. The new switch will not only increase train speeds, but also reduce wheel wear. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 3 Jun 84 p 2] 12595

NEW CAUCASUS TRACKS--Baku--Yevlakh is a large railroad junction in Azerbaijan. During the previous 5-year plan, the junction connected Stepanakert, capital of the Nagorno-Karabakh Autonomous Oblast, with the country's main railroad lines. As specified by the 24th CPSU Congress, a track is now being laid to spurs in the Greater Caucasus. The track will play an important role in the further social-economic development of large rural regions throughout the Sheki-Zakatal'skaya Zone. The track-laying crews have already crossed the border of the mountainous Kakhskiy Rayon. Several days ago, they completed the largest railroad bridge, across the Dakhnachay River. Now, the tracks are rushing into the mountains. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 19 Jun 84 p 1] 12595

SOVIET-TURKISH RAIL COOPERATION--In accordance with the Intergovernmental Agreement on Through Rail Service, representatives of the USSR Ministry of Railways and the Ministry of Communications and Transport of the Turkish Republic held their regular meeting in Moscow. The results of cooperation over the last two years were discussed. It was noted in the discussions that the volume of Soviet export-import freight transshipments through Turkish territory has decreased slightly in recent years. Regulations for the Transshipment of Soviet and Turkish Export-Import Freight Through the USSR and Turkey were agreed upon at the conference. Both countries believe that the implementation of these Regulations, as well as the creation of favorable financial conditions, will permit an increase in the volume of freight in Soviet-Turkish through rail service. The parties informed each other of progress made in increasing the throughput of the Dogukapi and Akhuryan border stations. A Protocol of Meeting Results was signed on the Soviet side by First Deputy Minister of Railways V. N. Gin'ko and on the Turkish side by Deputy Minister of Communications and Transport O. Buldaç. [Text] [by Yu. Yershov] [Moscow GUDOK in Russian 24 Jun 84 p 3] 12595

TASHKENT CASTINGS DEFECTIVE--Chelyabinsk--Because of poor-quality Tashkent castings, we have had to spend too much time making parts for wheel pairs. The castings have the wrong dimensions. They have sand inclusions, blisters and porosity. Their surfaces are not properly cleaned of mold sand. We, the workers of the electric locomotive repair plant, request that the directors of the Main Administration of Rolling Stock Repair and Spare Parts Production and of the Tashkent Diesel-Locomotive Repair Plant take effective measures to improve steel casting quality. It is also worth investigating whether our plant might be able to obtain the same castings from closer enterprises. How many years will metal be transported these many thousands of kilometers? [Text] [by Stromov, Stakanov et al.(13 signatories)] [Moscow GUDOK in Russian 5 Jul 84 p 1] 12595

NEW, MORE POWERFUL LOCOMOTIVE--Tbilisi, 24 [Jul] (TASS)--A new series of locomotives has been developed for heavy trains. Production of the new locomotives has begun at the Elektrovozostroitel' Production Association in Tbilisi, where the first VL-15 model was finished today. The enterprise's collective completed one of this year's main socialist obligations five months ahead of schedule. The 12-axle, 9,000-kilowatt giant can reach speeds of 100 km per hour. It meets all user specifications and has an electronic control system. The regenerator can return hundreds of kilowatts of electricity to the power grid during braking. "The new locomotive was developed in concert with the Novocherkassk electric-locomotive builders," said Z. Chivadze, the association's general director. "Our colleagues supplied many parts and assemblies." At present, every third main-line electric locomotive in the country is built in Tbilisi. After renovation work is completed at the association's main enterprise, locomotive production will increase 1.5-fold. [Text] [Moscow TRUD in Russian 25 Jul 84 p 1] 12595

NEW SIBERIAN RAILROAD BOUNDARIES--In order to improve the operation of the Lensko-Osetrovskiy Transport Junction, the Ministry of Railways has decided to establish the boundary between the West Siberian and Baykal-Amur railroads at the Lena-Vostochnaya Station. The station is part of the West Siberian Railroad. [Text] [Moscow GUDOK in Russian 26 Jul 84 p 2] 12595

DNEPROPETROVSK-YUZHNYAYA STATION OPENS--The Dnepropetrovsk-Yuzhnaya Station (code 48010) on the Pridneprovsk Railroad is open. It will receive and forward carload shipments only on sidings and in special-use areas. [Text] [Moscow GUDOK in Russian 5 Jul 84 p 2] 12595

BAM SECTION TEMPORARILY OPENED--The Bestuzhevo-Dipkun section of the Baykal-Amur Main Railroad, now under construction, is being opened for through service with Ministry of Railways railroads. The Marevaya (99580), Unakha (99600) and Dipkun (99610) stations in this section are being opened for freight operations. Freight shipments on this newly-opened section and at the stations opened for freight operations are being handled under the conditions specified in the Collection of Transit Rules and Tariffs No. 115 of 9 May 1960. [Text] [Moscow GUDOK in Russian 5 Jul 84 p 2] 12595

NEW CAUCASUS PASSENGER PLATFORM--The new passenger platform on the Belorechenskaya-Veselaye section (between Krivenkovskaya and Grechenskiy) on the North Caucasus Railroad has been named Kirpichnoye (code 56622). The Kirpichnoye

Platform is 6 km from the Krivenkovskaya Station and 3 km from the Grechenskiy Station. [Text] [Moscow GUDOK in Russian 5 Jul 84 p 2] 12595

NEW KRASNOYARSK RR STATION--The new station on the section of the Krasnoyarsk Railroad adjoining the present Irba Siding has been named Bolshaya Irba (code 92270). The station is open to receive and forward carload shipments only on sidings and in special-use areas. The Bolshaya Irba Station is 14 km from the Irba Siding, 293 km from the Sayansk Transit Station and 157 km from the Tigey Transit Station. [Text] [Moscow GUDOK in Russian 5 Jul 84 p 2] 12595

NEW ALMA-ATA RR STATION--The new station on the section of the Alma-Ata Railroad adjoining the Kazykurt Station has been named Tekesu (code 76030). The new station is open to receive and forward carload shipments only on sidings and in special-use areas. Tekesu is 5 km from the Kazykurt Station, 91 km from the Arys-1 Transit Station and 332 km from the Lugovaya Transit Station. [Text] [Moscow GUDOK in Russian 5 Jul 84 p 2] 12595

NEW SOUTHERN RR STATION--The Sokovoye Station (code 45850) on the Southern Railroad has been opened for freight operations. [Text] [Moscow GUDOK in Russian 5 Jul 84 p 2] 12595

NEW OCTOBER RR SIDING--The Vorobetskaya Siding (code 08330) on the October Railroad is open to receive and forward carload shipments only on sidings and in special-use areas. [Text] [Moscow GUDOK in Russian 2 Aug 84 p 2] 12595

NEW WEST KAZAKHSTAN SIDING--The Diny Nurpeisovoy Siding (code 71780) on the West Kazakhstan Railroad is open to receive and forward carload shipments only on sidings and in special-use areas. [Text] [Moscow GUDOK in Russian 2 Aug 84 p 2] 12595

NEW DONETSK RR STATION--The new station on the Seversk-Pereyezdnyaya section of the Donetsk Railroad has been named Novozolotar'ka (code 52900). The station is open to receive and forward carload shipments only on sidings and in special-use areas. It is also open for suburban and local passenger service. Novozolotarevka is 19 km from the Pereyezdnyaya Station, 11 km from the Novo-Druzhevskaya Station, 16 km from the Seversk Transit Station, 44 km from the Vengerovka Transit Station and 147 km from the Kupyansk-Sortirovochnyy Transit Station. [Text] [Moscow GUDOK in Russian 2 Aug 84 p 2] 12595

NORTH CAUCASUS STATION RENAMED--The Zlodeyskaya Station on the North Caucasus Railroad will henceforth be known as the Konarmeyskaya. [Text] [Moscow GUDOK in Russian 2 Aug 84 p 2] 12595

NEW OCTOBER RR STATION--A new station on the section of the October Railroad between Petrozavodsk-Tovarnyy and Suoyarvi-1 has been named Imatozero (code 02210). The station is on the site of the passenger stop at the 460-km marker. The station is open to receive and forward carload shipments only on sidings and in special-use areas. It is also open for suburban passenger service. The Imatozero Station is 79 km from the Petrozavodsk-Tovarnyy Transit Station and 61 km from the Suoyarvi-1 Transit Station. The passenger stop at the 460-km marker has been removed from reference documentation and information. [Text] [Moscow GUDOK in Russian 2 Aug 84 p 2] 12595

NEW SUBWAY CLEARANCES--In connection with the introduction of GOST [All-Union State Standard] 23961-80 for subway structure, equipment and rolling stock clearances, instructions have been developed that categorize the requirements for transporting oversize freight on underground main lines. The instructions will be implemented on 1 January 1985. [Text] [Moscow GUDOK in Russian 15 Jul 84 p 1] 12595

TELEVISION PASSENGER-FLOW MONITOR--The country's first-ever television system for monitoring the passenger flow on subways has been installed at the Universitet Station of the Kiev Metropolitan. [Text] [Moscow GUDOK in Russian 15 Jul 84 p 1] 12595

FRANCO-SOVIET SUBWAY AGREEMENT--During a visit by a French delegation headed by the president of the Paris Regional Transport Authority [RATP], an agreement on scientific and technical cooperation in subway development was concluded between the Ministry of Railways and RATP. This agreement is now in effect. [Text] [Moscow GUDOK in Russian 15 Jul 84 p 1] 12595

HIGH-SPEED PASSENGER EQUIPMENT--In connection with the organization of high-speed passenger trains in a number of directions, the Main Rail-Car Administration has determined the type of passenger cars to be used in such trains. The administration has developed technical documentation for repairing these cars. [Text] [Moscow GUDOK in Russian 15 Jul 84 p 1] 12595

NEW TRAIN-CONTROL SYSTEM--The Main Rail-Car Administration and the Urals Department of VNIIZhT [All-Union Scientific-Research Institute of Railway Transport] have completed tests of prototypes of the DISK-BK-Ts system [remote-control system for monitoring rolling stock throughout its journey]. This system will replace the PONAB-3 system. Based on the test results, it was decided to build industrial prototypes this year in order to begin series production. [Text] [Moscow GUDOK in Russian 15 Jul 84 p 1] 12595

NEW INSULATED TANK CARS--The technical requirements, based on technical-economic indicators, have been determined for a new type of insulated tank car for hauling petroleum bitumen. A request has been made for the development of the cars. [Text] [Moscow GUDOK in Russian 15 Jul 84 p 1] 12595

NEW CASTING INSPECTION DEVICE--Comparative testing of the DF-1 magnetoferro-defectoscope was done at the Sverdlovsk-Sortirovochnyy Railcar Depot. The DF-1 is designed to monitor flaws in railway truck castings. It can reveal defects that can't be visually detected. The unit will be introduced in the near future. [Text] [Moscow GUDOK in Russian 15 Jul 84 p 1] 12595

NEW PASSENGER CAR DESIGN--The technical project for a new, 27-meter-long passenger car with expanded seating capacity has been developed and approved. A prototype will be manufactured this year. [Text] [Moscow GUDOK in Russian 15 Jul 84 p 1] 12595

CSO: 1829/347

MARITIME AND RIVER FLEETS

AMUR ESTUARY NAVIGATIONAL GUIDELINES

Moscow MORSKOY FLOT in Russian No 2, Feb 84 pp 30-31

/Article by A. Moroz, pilot: "Special Features of Piloting Ships in the Amur Estuary"/

/Text/ The Amur estuary is one of the difficult narrow passages in the navigational and hydrographic sense. In consequence, mariners must reckon with a number of special features that are characteristic only of this given area of navigation.

As is generally known, the Amur estuary is a shallow part of the strait situated between the continental coast of Asia and Sakhalin Island. To the south, it turns into the Nevel'skiy Strait, which connects with the Tatar Strait, and to the north it is contiguous with the Gulf of Sakhalin. The name "estuary" originated in the historical past, when Sakhalin was considered a peninsula and the present-day Tatar Strait was called the Gulf of Tatary. It was then thought that the Amur formed a large estuary before discharging into the Gulf of Sakhalin.

The difficulty of navigating the Amur estuary arises not only from the fact that ships must proceed in immediate proximity to navigational hazards with narrow, winding channels. The tidal phenomena here are particularly extraordinary. The Sea of Okhotsk gives the estuary irregular diurnal tides, and the Sea of Japan gives it irregular semidiurnal tides. The diurnal tide of the Sea of Okhotsk enters the estuary from the north and passes through the whole estuary to the Strait of Nevel'skiy in the course of 8 hours, meeting with the tide from the Sea of Japan. Spreading along the Nevel'skiy Channel, pressing toward the continental coast, this wave enters the mouth of the Amur at Cape Tabakh and moves upriver to Nikolayevsk-na-Amure, beyond which it loses its impact upon navigation. In turn, the semidiurnal tide of the Sea of Japan passes through the greater part of the estuary until it is abeam of Uyuzut Island in the course of 7 hours. There it, interacting with the diurnal tide of the Sea of Okhotsk, changes course and enters the mouth of the Amur along its South Channel, and moves upriver, losing its impact upon navigation approximately between Oremif Island and Cape Vasse. Tidal interaction is complicated by the head of the Amur's water, the flow of which changes over the course of the year. In addition, storm surges exert considerable influence upon the currents and levels of the water of the Amur estuary. However, neither the given sketch of the tidal interaction of the two seas and the river nor a

number of other sketches of a similar nature can explain all the various situations that arise in the piloting of ships. These situations are complicated by changes in the amplitude and phases of the tides, the background levels of the Sea of Japan and the Sea of Okhotsk, the water flow of the Amur, and meteorological factors. All this leads to two specific circumstances. First, the channels of the estuary frequently change their breadth, depth, and location under the influence of such complex water dynamics. Second, the actual water levels often differ from those set forth in the tide tables, which in turn requires the placement of water-level markers in the shallowest parts of the channels.

Several channels run through the Amur estuary. There are three main ones: the South Channel, which connects the Amur with the Tatar Strait and also with the Sea of Japan; the Nevelskiy Channel, which connects the Amur with the Sea of Okhotsk; and the Sakhalin Channel, which connects the Sea of Okhotsk and the Sea of Japan. Piloting is mandatory in all the channels. Captains are allowed to navigate independently only after checking their knowledge of the navigational area with the pilot service of the Amur estuary.

During the period of navigation, pilot stations maintain round-the-clock radio communication to receive calls for pilots on a frequency of 500 kHz. Although the regular places of distribution of the floating pilot stations are at Buoys Nos 1 and 68, in accordance with piloting requirements, mariners should reckon that as a rule the pilot ships are at other places according to weather conditions: the southern pilot station at Cape Nevelskiy and the northern ~~at~~ the vicinity of Buoy No 71.

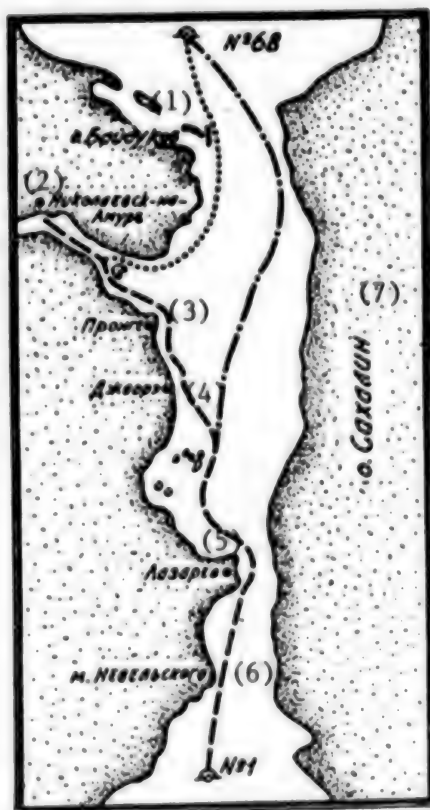


Figure 1. Sketch of Amur Estuary

Key:

- | | |
|-------------------------|--------------------|
| 1. Baydukov Island | 5. Lazarev |
| 2. Nikolayevsk-na-Amure | 6. Cape Nevelskiy |
| 3. Pronge | 7. Sakhalin Island |
| 4. Dzhaore | |

The most dangerous parts of the channels for the passage of ships are those with minimal depths: in the Southern Channel, the vicinity of Buoys Nos 22 and 31; in the Sakhalin Channel, the area between Buoys 47 and 48; and in Nevelskiy Channel, the area between Buoys Nos 76 and 87.

Indications of the minimal depths in the channels and their exact coordinates are announced annually in the Notices to Mariners as the results of soundings at the start, and also sometimes in the middle, of the navigation season. Actual indications of water levels, as well as information about falling or rising levels, can be obtained from the water-level markers emplaced off Capes Dzhaore and Pronge in the Southern Channel and off Baydukov Island in Nevelskiy Channel. Information on the levels at the two markers in the Southern Channel is transmitted from Pronge beacon during the first 5 minutes of each hour, and on the post in Nevelskiy Channel from Baydukov radio-beacon during the second 5 minutes of each hour, in plain text via radiotelephone on a frequency of 2264 kHz. The actual depth at the bar of the channel in the vicinity of the water-level marker at a given moment in time can be determined by adding to the minimal depth at the bar, given the lowest theoretical level (announced in Notices to Mariners), the height of the water level at the bar above the lowest theoretical level according to the information from the water-level marker.

The depth of water under the keel should be calculated with the consideration that the first magnitude is determined with an accuracy of 20 cm, and the second magnitude with an accuracy of 2 cm. In practice, the depth of water under the keel should be no less than 25 to 30 cm. One must take into account sedimentation and fact that, given a depth of water under the keel of less than one-third of the ship's draught, yawing sharply increases, and this is especially dangerous in the presence of a lateral current. Without knowing the currents, it is dangerous to navigate in the estuary. Some mariners mistakenly think that on stretches with reversing currents, the moment of high or low water must coincide with the moment of the change of currents, i.e., with the moment when no current is evident. As a matter of fact, this is not the case: the moments of high (or low) water do not coincide with the moments of the change of currents.

The channels of the Amur estuary are protected by numerous buoys and stakes which have great significance for safety of navigation. In the 1984 navigation season, warning markers of the international system MAMS (Region A) will be placed in the Amur estuary, and also in the entire Pacific basin. Although the regular places of the buoys and their number (112) basically remain the same, the international system of protecting the estuary has a number of special features. Here the buoys are axial and basically placed in a lateral system; in consequence, one can recognize them at night, without having recourse

to checking their characteristics, according to the color of their lights: green ones are on the right side of the channel as one puts out to sea, red ones are on the left, and the white ones are axial. However, one must take into account that ships sometimes damage the colored filters of the lamps on the buoys, in which case the colored light becomes white. An inadequacy of the new system of protection as compared with the old one is that the distance of visibility of some buoys is reduced at night.

The cardinal markers of the new system have white lights. There are relatively few of them here. Nevertheless, we must give particular attention to them. One must definitely remember that the new markers are placed on the opposite side from the danger. For instance, instead of a western buoy, an eastern buoy will be placed at Dyakov Bank; instead of a southern buoy, a northern buoy will be placed in Khussinskiy Channel.

Top numbers, which were not in the old system, will be placed on the buoys for recognition in the daytime. Buoys on the left side have even numbers, buoys on the right only odd ones. The axial buoys are numbered both even and odd. Former Buoys Nos 9 and 10 in the new system are allocated to the independent approach channel at Port Lazarev, and will be given the letters "A" and "B" respectively.

To avoid running ships aground in the Amur estuary, it is necessary to learn the basic features of navigating its channels in timely fashion.

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MARITIME AND RIVER FLEETS

AMUR RIVER SHIPPING COMPANY SEEKS MORE SHIPS FOR EXPORT WORK

Moscow VODNYI TRANSPORT in Russian 5 Jun 84 p 3

/Article by S. Lyayfer, chief of the foreign shipment division of the Amur River Shipping Company: "Where Are the Rubles Being Lost?"

/Text/ The Amur River Shipping Company has accumulated a great deal of experience in the shipment of cargoes between Japanese and Soviet ports. It owns 19 ships of the river-ocean going class. In the June-September period, four of these are operated on the route from Nikolaysvsk-na-Amur and Khabarovsk to Okhotsk, with the remainder devoted to foreign routes.

The major type of export cargo in the basin, for the time being, consists of timber. Is the transportation of this cargo being carried out effectively in terms of the transportation potential?

In order to answer this question, it must be stated that the volume of shipments of raw forest materials and materials from them amounted to 430,000 tons in the past year, including 250,000 tons in the summer period alone. The boats of the shipping company take on these cargoes at locations on the Lower Amur River and at the ports of Mys Lazarev and Vanino. During the winter we operate to Japan from the port of Poset and other points of the Maritime Kray, such as De-Kastri, Plastun, and Olga. These kinds of operations are favorable for the rivermen. In addition, the domestic fleet carries shipments of imported goods from ports of the Inland Sea of Japan to Khabarovsk, Blagoveshchensk, and Vanino. This is why projections to the year 2000 include increases in the volume of shipments of exported cargoes.

However, perhaps it is already time, today, to exploit the opportunities offered by a convergence of international events: prices for timber are good, and freight charges are also solid. Nevertheless, the current carrying capacity of our fleet makes it possible, for example, to export from the lower reaches of the Amur River less than one-fourth of the overall volume of the export timber processed here! In my opinion this situation cannot help but upset people.

Serious consideration should be given to this matter at the appropriate administrations of the Ministry of the River Fleet, in order to assist the Amur rivermen to become the leaders in the basin. What do I have in mind?

In the first place it is essential, in view of the age of the ships of the shipping company, to increase the fleet for export operations by no fewer than 20 vessels. It should be noted that the planned delivery of 25 vessels by 1995 is inadequate.

Some adjustments may be made by tapping underutilized internal capacities. For instance the cruising range for class 2 SP vessels can be expanded. They could sail as far as the ports of the southern portion of the eastern shore of Japan, such as Tokyo, Nagoya and Sameda. What is needed is only the agreement of the USSR Registry. But this issue has not been resolved as yet.

To be precise, extending the sailing ranges would make it possible to increase the loads of ships in the opposite direction--to our own shores.

Further. A solution to the problem would be facilitated by the construction of ships for our shipping company with a special-purpose designation and a permissible cruising range from point of loading of 200 miles. Such ships would improve the operational efficiency of the fleet year round by making it possible to visit, for practical purposes, all the ports of China and the other countries of Southeast Asia.

Under our conditions, the organization of the servicing of the export fleet is acquiring greater and greater significance. It is essential to expand energetically the repair base of the shipping company. After all, it is because of inadequate facilities at the Khabarovsk and Nikolayev Repair and Operations Bases that the fleet is hampered every year by delays in the bringing into service of vessels after winter vessel maintenance. In other words, it is impossible to provide the volume of repairs required by the USSR Registry.

Situations such as the following are of more than minor importance. The Nizhneamursk production association had arranged for the export loading of a cargo of timber directly onto vessels of the export fleet at the ports of Kiselevka and Bystrinsk. This reduced to some extent the time involved making connections and deliveries of parts of this timber to Mago. However, at the Podgornoye terminal, where the annual plan calls for the shipping to 70,000-80,000 tons of forest products, the loading was not coordinated satisfactorily. The storage dock is too small. The floating crane, by the way, has a small lifting capacity and is frequently breaking down. There are not enough trucks to bring the timber to the loading facility. The foregoing factors result in long periods of idleness while the fleet

is being loaded here. It is true that there have been some improvements as a result of packing the timber with "uspak" slings, but this has been insignificant.

The fleet of the Amur River Shipping Company is moving out onto the reaches of the ocean ever more boldly. First class, seasoned captains and highly trained personnel on the river-ocean going vessels assure the delivery, without transshipment, of cargoes from the internal rayons of the Khabarovsk Kray, the Amur Oblast and maritime ports to foreign destinations. Accordingly, the issue of the development of the export fleet is an important and pressing one.

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MARITIME AND RIVER FLEETS

FINNISH, ITALIAN-BUILT FEEDER LIGHTER CARRIERS

Moscow MORSKOY FLOT in Russian No 2, Feb 84 pp 42-44

/Article by O. Nikonov, chief designer of the Leningrad Central Drafting and Design Buro: "Feeder Lighter Carriers: A New Addition to the Fleet"/

/Text/ The international economic marine enterprise Interlikhter, which operates the line that connects Central and Southeastern Europe with the countries of South and Southeast Asia, has been operating successfully for 5 years. The high-tonnage lighter carriers "Yulius Fuchik" and "Tibor Samueli" of the Soviet Danube Steamship Line serve the maritime portion of the line. To ensure the stability of freight traffic, increase the number of ports served, speed up the turnover of lighters, and increase the efficiency of lighter freight, a decision has been made to employ small feeder lighters on the final segments of the line. To perform this task, lighter carriers with a capacity of 6 lighters of the DM type or 12 lighters of the LESH type have been ordered for the Ministry of the Maritime Fleet in Finland and Italy for delivery in 1984. The lighter carriers are being built in the shipyards of the Finnish firm Valmet (the first ship in the series is the "Boris Polevoy"), which already has the experience of construction of lighter carriers of the "Yulius Fuchik" type, and in the shipyards of the Italian firm Breda (the first ship in the series is the "Matros Zheleznyak").

According to the principle of freight handling, feeder lighter carriers are regarded as ships of the dock-lift type. The process of loading and unloading lighters is practically indistinguishable from the docking of ships. The principle of freight handling of the lighter carriers of Finnish and Italian construction is identical.

Lighter carriers of the "Boris Polevoy" type are being built according to the Rules of the USSR Register for the class KM*LZ 1 A2, taking into consideration the requirements of the operative international conventions and national rules.

Aboard the ship, there is provided one continuous box-shaped hold of the open type (without hatch covers) 125 meters long, 24.5 meters wide, and with a capacity of 31,000 cubic meters. The location of the living quarters superstructure is in the bow, the engine compartment is amidships, and the loading port is in the stern.

To facilitate loading and unloading conditions, the lighter carrier is flooded to a draught that ensures a depth of water in the hold sufficient for loading

and unloading the lighters. Maximum flooded draught is 9.3 meters. The list of a lighter of the DM type during loading should not exceed 1.5 degrees, and the difference in height between the extreme high and low points of its bottom, taking into account list and trim difference, should not exceed 400 mm. The flooding and pumping out of the lighter carrier are accomplished thanks to the filling and emptying of ballast tanks, the total capacity of which is 18,500 cubic meters.

Table 1. A Comparison of the Features of Finnish- and Italian-Built Feeder Lighter Carriers

Feature	"Boris Polevoy"	"Matros Zheleznyak"
Length, meters:		
maximum	158.9	154.2
between perpendiculars	141.2	140.0
Width, meters	31.0	29.0
Hull height, meters:		
to upper deck	15.45	14.85
to main deck	5.3	5.3
Draught loaded, meters	4.4	4.3
Deadweight, tons	8770	8500
Power of electrical plant, kilowatts	5560	4120
Speed, knots	13.4	12.5
Cruising range, miles	3000/8000	7000
Self-sufficiency in supplies, days:		
fresh water	45	45
provisions	60	60
Crew, men	32	32

The ballast system is served by two pumps with an output of 1,500 cubic meters per hour. The time for flooding the ship to a draught of 9.3 meters is 5 hours, the time for pumping out to a draught of 4.4 meters with a full load of lighters of the DM type does not exceed 7.5 hours.

The loading of lighters into the hold and their unloading is accomplished through the stern port, the width of which is equal to the width of the hold, with the help of tugboats and of the ship's conveyer gear, which consists of four special trolleys (two on each side) that move along the fore-and-aft bulkheads of the hold. The lighters are made fast to the conveyer trolleys with special cables. In moving a lighter around within the hold, one trolley is used as a tractor and the other as a check or restraint.

Each conveyer trolley is served by two hydraulic winches with a traction strength from 5 to 80 kilonewtons. Its maximum power corresponds to a rate of movement of 10 meters per minute. Control of the winches is accomplished from stationary posts located at the sides of the stern portion of the upper deck, or from two portable ones. Lighters are loaded into the hold one at a time, but the possibility of loading two lighters at the same time is provided. The time for loading lighters into the hold from the moment of linking them to the conveyer gear of the lighter carrier is: for the bow, 20 minutes; for amidships, 15; and for the stern, 10 minutes. For the fixed loading of lighters of the DM type, four fore-and-aft chutes are provided in the decking of the main deck; for lighters of the LESH type, special fittings are attached.

Figure 1. [Key shown on next page]

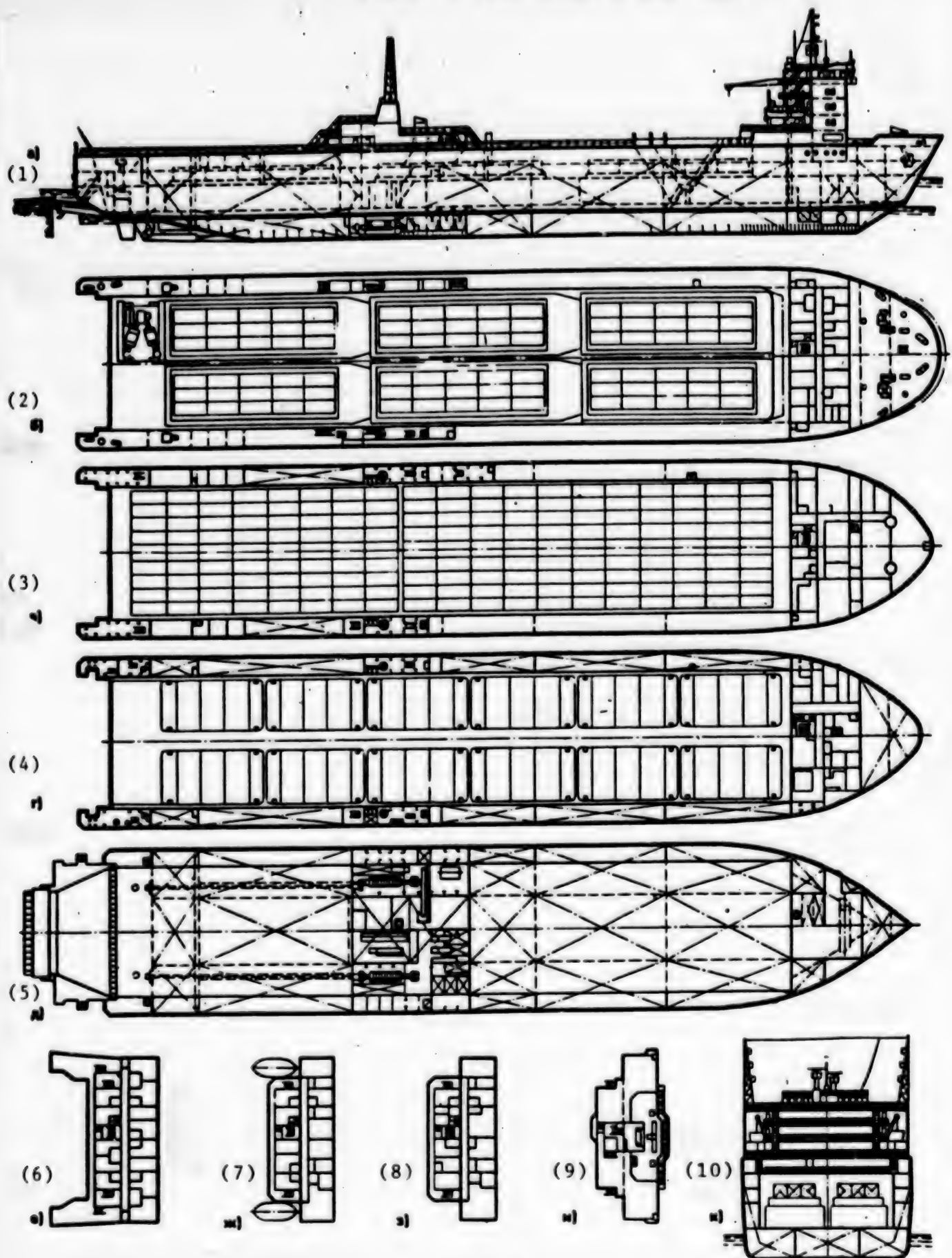


Figure 1. General disposition of the ship

Key:

- | | |
|------------------------------------|---------------------------------------|
| 1. Side view, longitudinal section | 6. First foredeck |
| 2. Upper deck | 7. Second foredeck |
| 3. Second deck | 8. Third foredeck |
| 4. Third deck | 9. Command deck (navigational bridge) |
| 5. Fourth (main) deck | 10. Cross-section |

In addition to lighters, the transportation by lighter carriers of various general cargoes, international standard containers, forest materials in packages and block-packages, trailers, roll-trailers, and wheeled conveyances with fuel in tanks is provided for, with performance of loading and unloading operations by the vertical method with port equipment or by rolling over a ramp in the stern port with a passage width of 15 meters. The ramp in the stern port is raised and lowered with the help of two winches. During the loading (unloading) of lighters into the hold, the ramp is held fast by cables in its down position not lower than the level of the bottom of the lighter carrier. The ramp's work capacity is preserved up to a list of the lighter carrier of not more than two degrees. The ramp's strength facilitates the passage of heavy MAFI trolleys weighing up to 350 tons.

The ship can carry 513 loaded 20-foot international standard containers or 243 of the 40-foot type, given their placement in the hold in 3 layers. The number of containers transported can be increased by stacking them in four or five layers (under conditions of limited mass). The maximum number of 20-foot containers of limited mass is 855.

The number of 40-foot roll-trailers that can be transported is 72. A place to transport a tugboat or pushboat is provided in the stern part of the main deck. There are countersunk rings to make fast clearance cargoes in the hold's fore-and-aft bulkheads.

Portable bridges are provided in the stern part of the living quarters superstructure at the upper-deck level and on the stern mast to facilitate movement from side to side.

The main engines of the lighter carrier are two nine-cylinder, four-stroke, average cycle (12.5 c^{-1}) diesels with turbo-supercharging and Vyartsilya-Vaasa 9R32 interval cooling, with a mean power of 5560 kilowatts. Power is transmitted to two four-bladed, regulated-pitch propellers 2.9 meters in diameter through two one-stage reduction gears with a transmission ratio of 3.1:1, with which the engines are linked by elastic ungeared couplings. The rotation frequency of the screw propellers is 4 c^{-1} .

To meet living and technical needs for steam, an auxiliary boiler with a steam-generating capacity of 3,000 kg per hour and a working pressure of seven bars and two recovery boilers, each with a capacity of 1,500 kg per hour, and which run off of the exhaust gases of the main engines, are provided.

The ship's electrical energy requirements are supplied by two diesel generators, each with a power of 400 kilowatts and a rotation frequency of 25 c^{-1} , and by two shaft generators, each of 800 kilowatts.

Control and monitoring of main engine operation and other engine room equipment is accomplished from a soundproofed central control booth. Control of the regulated-pitch propellers can be accomplished from the wheelhouse, from the wings of the bridge, from the central control booth, and from the local post. The level of automation and control corresponds to the requirements of the Rules of the USSR Register for mark A2, ensuring the possibility of operating the engine room without watch personnel.

The ship's maneuverability is facilitated by two balanced rudders, which are put into operation by hydraulic steering machinery. To improve maneuverability, bow maneuvering equipment with an electrical drive capable of a lateral thrust of 78.5 kilonewtons is provided. To decrease the extent of rolling oscillations, bilge keels approximately half as long as the ship are provided.

The anchoring and mooring machinery are comprised of two forward combined electric anchor-mooring winches, two automatic stern mooring winches, and electric mooring capstans placed on each side.

The lifesaving equipment consists of two motor lifesaving boats with a capacity of 50 men each, which are served by gravitationally-declined davits, and four 10-place and two 6-place self-inflatable liferafts.

The crew's quarters consists of seven modular cabins, 25 single cabins, and a cabin for the pilot. In 10 of the single cabins there are extra Pullman type berths. All the cabins have individual toilet facilities. Aboard the ship are provided a wardroom and a messroom for the crew, recreation rooms for the command staff and the crew, a library, a hobby room, a photographic laboratory, a sauna, a swimming pool, and a laundry. An air-conditioning system, served by two central conditioners, ensures normal conditions of habitation in the residential and common quarters. Separate systems are provided for the supply of fresh water for drinking and washing. Fresh water reserves are supplemented by a water distillation unit with a capacity of 10 tons per day, that is equipped with a water disinfection device identical to the one in the drinking-water system.

Fecal and sewer water are drained into a biological treatment cistern. The same cistern receives groundup galley waste. An incinerator with a capacity of 80 liters per hour for liquid and 200 kg per hour for solid wastes is provided to burn petroleum product waste and garbage.

Modern radio and electrical navigation equipment, chiefly of native production, has been installed aboard the lighter carrier, which permits successful resolution of navigational tasks and efficient operation of the ship.

In distinction from lighter carriers of Finnish construction, aboard ships of the "Matros Zheleznyak" type, the stern port is not a ramp, and in its open position is folded back upward. The main engines are two pairs of average

cycle (12.5 c^{-1}) diesels designated GMT BL 230.12P (1,235 kilowatts) and GMT BL 230.8P (825 kilowatts), the power of which is transmitted to the two regulated-pitch propellers through two reduction gears with a transmission ratio of 3.4:1.

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MARITIME AND RIVER FLEETS

INADEQUATE SERVICING OF SOVIET SHIPS IN FOREIGN PORTS

Moscow MORSKOY FLOT in Russian No 2, Feb 84 pp 50-51

/Article by V. Mekhanik, senior engineer of the motorship "Kapitan Kozlovskiy" of the Baltic Steamship Line/

/Text/ G. Grin'ko's article "Shore Service of the Fleet" /MORSKOY FLOT No 11, Nov 83/ has raised urgent questions regarding interaction of a ship's crew with the shore organizations that service a ship upon its arrival in a Soviet port, and also discusses the entire body of measures regarding shore service of the fleet. Although there have recently been changes for the better in shore service of the fleet, as was correctly noted in the article, many questions in this sphere have nevertheless not yet been successfully resolved.

Our motorship, the "Kapitan Kozlovskiy," works on foreign lines, and does not call at Soviet ports in practice. The ship's basic crew is changed for a replacement crew at the port of Hamburg every 2 months. The ship is inadequately provided with supplies. The steamship line's material-technical supply (MTS) service is supposed to deliver the supplies in a container at the port of Hamburg upon the ship's arrival in accordance with the request submitted by the ship. However, it is forbidden to transport certain types of supplies, such as flammable liquids or gases, for instance oxygen and acetylene, in containers. But the MTS service sends the ship even material-technical supplies that it is permitted to transport in containers in quantities that are obviously insufficient. And the supplies in the container often come without invoices, which we receive a month later in some distant port. Consequently, confusion arises in the reception of supplies, and later there is a lengthy correspondence with the MTS service concerning confirmation of receipt of the supplies. Thus, in December 1982, only 60 percent of an order from the ship, which had just been commissioned, was satisfied; consequently, certain types of material-technical supplies had to be purchased abroad.

A chronic problem for us is where to obtain couplings for fire hoses with foam generators, since during construction of the ship in the GDR, nuts of one type were used on the hoses, but the vulcanized foam generators of the steamship line's MTS service are distributed with nuts that are mutually incompatible. Thus we merely carry aboard ship the main sections of the foam generators as ballast.

For the ship's order to be satisfied more or less qualitatively, the directors of all the ship's services must take part in the preparation and selection of supplies, on which much time and effort is spent. And some spare parts that are obtained individually in the warehouses are taken to the ship by airplane.

G. Grin'ko correctly observes that many types of material and technical supplies are of poor quality: overalls and boots, brushes, instruments, electric lamps, and so forth often do not satisfy modern requirements. In place of the existing traditional worker's clothing (trousers and jackets), it is obviously time to introduce overalls that are comfortable for work and that fully meet the technical safety norms. It is necessary to supply ships with electric lamps resistant to vibration for marine use. During the ship's rare call at a Soviet port, the delivery of supplies and products aboard takes an intolerably long time. As a rule, products and supplies arrive just before the ship's departure after 5:00 pm, which contradicts the standing orders and instructions of the steamship line's management. The ship's crew also unloads the products and supplies, although here help from shore is required.

Instances when the movement of a ship from berth to berth is carried out exactly on time and according to instructions are rare. Usually the start of such a transfer is dragged out for a long time because of a lack of tugboats, dockers, or a pilot. Often the members of the ship's crew who take part in transfers (of which there are several during a short visit in a Soviet port) must spend more time aboard ship than at home, entirely to no purpose. This interferes with performance of repair work planned for the time of the visit to the port with representatives of the Baltic Steamship Line Technical Department (especially regarding the main engine, which must be kept in constant readiness).

The workers of the Baltic Steamship Line Technical Department render the crew considerable assistance in repair work both during the ship's visit to the port and by sending their specialists on voyages aboard the ship. Unfortunately, when embarking upon a voyage, Baltic Steamship Line Technical Department workers do not always have an adequate quantity of the materials, paint, and spare parts necessary to carry out planned work, and there is none of this aboard the ship.

The workers of the steamship line's automation laboratory render much assistance to the crew. Without being summoned, they visit the ship upon our every arrival in Leningrad, check the automatic systems of the main engine and the auxiliary machinery, and eliminate defects (when necessary, they go on a voyage aboard the ship). The laboratory has an adequate quantity of replacement and spare parts for the aggregate replacement of equipment in disrepair. Naturally, this promotes the reliability and long life of the automatic systems of the ship's propulsion machinery. And the reliability of the distance automated guidance of the main engine is one of the navigation safety conditions.

At the present time, work is also being postponed at the steamship line's production combine. The number of responses to ships' orders executed by it has increased many times. Unfortunately, because of a lack of spare parts, the repair of ships' televisions and radio receivers, tape recorders and domestic appliances is sometimes delayed.

Every ship of the steamship line is annually given a plan to turn in scrap metal, both ferrous and nonferrous. But we are regularly confronted with great difficulties to draw up necessary papers to turn it in: it is necessary to go through several departments, to lose much time in obtaining the needed signatures, and to arrange for its transport.

For the efficient reception of scrap metal, it is obviously necessary to simplify this operation as much as possible, and a huge effect will immediately be obtained. The same also applies to waste paper, which is kept aboard ships for years, and there is no opportunity to surrender it.

One cannot but agree with G. Grin'ko's opinion that sailors aged under 40 should have a medical checkup once every 2 years, and the ship's doctor should be accorded the right to decide the question of a medical examination for a crew member whose health he doubts. For sailors older than 40 to 45, the order of having medical examinations can remain as before. At the present time, medical examinations at the polyclinic of the Leningrad maritime commercial port no longer take as much time as before, and the examination is also given on Saturdays. It is evident that the polyclinic workers are trying not to take up much of the sailors' time and are constantly improving their work, for which we are very grateful to them.

Despite a tendency toward improvement in the work style of the organizations that service the ships in port, it is too early to speak of normal service. Much must still be done.

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MARITIME AND RIVER FLEETS

COLLEGIUM SCORES BELA RIVER SHIPPING COMPANY PERFORMANCE

Moscow VODNYI TRANSPORT in Russian 2 Jun 84 p 3

/Article: "In the Collegium of the RSFSR Ministry of the River Fleet and the Presidium of the Central Committee of the Union"/

/Text/ A scheduled joint meeting of the Trade Collegium of the RSFSR Ministry of the River Fleet and the Presidium of the Central Committee of the Trade Union discussed the draft plan for the economic and social development of river transport for 1985. Reports were presented at the meeting by V. Pronin, chief of the River Fleet Ministry Economic Planning Administration, D. Chimburov, chief of the Main Capital Construction Administration, and V. Tikhonov, chief of the Technical Administration.

Progress in the fulfillment of the directive of the ministry of the River Fleet, "Measures to Further Develop Shipments on the Bela River" was also discussed. V. Khudyakov, chief of the Bela Steamship Line, presented a report.

During these discussions substantive shortcomings in the work of the Bela Steamship Line were exposed. Last year the plan was not fulfilled for shipments of cargoes in a direct, combined railway-water connection. At the port of Ufa long periods of idleness were permitted for dredges, and targets for deliveries of containerized goods were not fulfilled. The level of violations of labor discipline remains high in the steamship line collective. The line is not conducting satisfactory capital construction, cases of serious violations of financial discipline here were documented.

In the adopted resolution the management of the Bela Steamship Line was informed of the impermissibility of similar occurrences and directed to raise the sophistication of personnel work, reducing personnel turnover as much as possible, to conduct an uncompromising struggle with violators of labor discipline and assure the fulfillment of planned indicators for gross productivity in all divisions of the fleet. It must do all in its power to speed up the processing in all divisions of the fleet. It must do all in its power to speed up the processing of ships and freight cars in ports. It was directed to implement a

number of practical measures to improve control and inspection work, and to stiffen penalties for wasting monetary resources. Management was directed to analyze the reasons for failing to fulfill the capital construction plan and to assure its strict fulfillment in the future.

Yu. Zakharov, chief of the Volga-Don Steamship Line, presented a report on the work of the collective of this steamship line on the assurance of shipments in 1984. He reported that the steamship line collective had to ship, during periods of open navigation, 21 million tons of cargo with a cargo-turnover of 18.3 billion ton-kilometers. But the transference of cargoes from railway to river transport is weak. Taking into account the developing complicated hydrological situation in the Basin, the Collegium of the Ministry of the River Fleet and the Presidium of the Central Committee of the Trade Union directed the line to develop specific measures to fulfill the annual plan for the transportation of cargoes, to improve the use of the fleet and its loading and unloading equipment, establish strict control over the work of transshipment ports, providing them with the requisite assistance in allocating freight cars to move the goods from the docks. The steamship line management was directed to take immediate measures to assure that ports are fully staffed, and to monitor the fulfillment of targets for the transshipment of cargoes.

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MARITIME AND RIVER FLEETS

NEW EQUIPMENT AT NIKOLAYEV SHIPBUILDING YARDS

Kiev PRAVDA UKRAINY in Russian 22 May 84 p 1

/Article by G. Selin, PRAVDA UKRAINY correspondent in Nikolayev:
"Mechanizing Labor"/

/Text/ The Plant imeni 61 Kommunara

"The entire increase in labor productivity and savings at 2.34 million rubles are to be assured by the introduction of advanced equipment. Three mechanized bays are to be made operational, along with one robotized assembly line and the introduction no fewer than 12 new technical procedures are to be introduced."

From the Socialist obligations for 1984

The Black Sea Shipbuilding Plant

"Savings of 4.7 million rubles are to be achieved from the introduction of measures related to the Comprehensive Plan for Increasing Production Efficiency. A total of 334 people will be switched over to mechanized labor. The thermal cutting of plate steel by program controlled machines will be introduced, as well as the modular construction of living quarters on ships under construction."

From the Socialist obligations for 1984

The specific commitments adopted by these two competing enterprises were formulated differently. Each has its own specific paths, its own guidelines. But many of the planned measures pursue the common and top priority objective of these related plants--a reduction in manual labor. This is an especially timely task for the shipbuilders in both their technical and social plan.

The engineering services of the Black Sea plant are working singlemindedly to reduce the volume of manual labor. Measures designed to meet this objective are included in plans for increasing production effectiveness, and progress in their fulfillment is checked weekly at a conference with the chief engineer. Divisions which do not

meet their targets for the mechanization of manual operations cannot hope to place in the competition. This kind of approach produces positive results. During the 3 years of the current five-year plan more than 1,400 workers have been shifted to mechanized jobs. The plant collective has occupied first place for the branch in the socialist competition for better results in the mechanization of manual labor.

The Black Sea workers are also implementing the above commitment for 1984 in a planned manner. In the first quarter, for instance, 23 workers were introduced to machinery. Right now the shipbuilders are setting up, ahead of schedule, a bay for the modular construction of shipboard living quarters that is scheduled to begin production in July. New equipment will make it possible to mechanize the work of 15 final assemblers. The manufacturing of the framework sections will take place on universal jigs right on the shop floor. The final assemblers will begin installing the panels of the living quarters without adjustments. This modular technique will make it possible to reduce the labor content of this operation by 50,000 standard hours and improve working conditions. Also in the works is the further introduction of hydraulic equipment (making it possible to mechanize the work of 45-50 ship assemblers), the setting up of lines for the manufacture of flat sections, and the installation of programmably controlled equipment for the cutting of plate steel. The Black Sea employees fulfilled all aspects of the January-April plan for new equipment, resulting in savings of more than 1 million rubles.

The employees of the plant imeni 61 Kommunara committed themselves just as energetically and without hesitation at the beginning of the year to the implementation of the plan for scientific and technical progress. A robotized line in April for the mechanized machining of angular drive forks began operation--a project of interplant cooperation. Specialists from the plant construction-technical bureau for robotization, headed by V.P. Drigo, participated actively in the startup and initial adjustments of this line. The complex consists of 4 Brig-10 industrial robots and has made it possible for the mechanical shop to release three lathe operators for other work and, more than likely, made it possible for this division to meet its targets for the startup of mass production.

Of the 12 technical procedures mentioned in the socialist commitments of the imeni 61 Kommunara employees, some have already been introduced into the production process and some are still being set up. In cooperation with collectives from research and development organizations, plant specialists have installed a Foran-Plater system for the comprehensive computer aided automation of labor intensive moulding room-technical designs. Computers also provide the control programs for Kristell model gas cutting installations. With the help of these programs the first set of complete hull details was generated for a ship under construction--the lead refrigerator ship Bukhta Russkaya. From the elimination of manual work to the automation of engineering and design calculations--this is the range of the creative activities of the Nikolaev innovators.

FISHING FLEET DEVELOPMENT

SUBMARINE-TRAWL NET DISENTANGLEMENT PROCEDURES

Moscow RYBNOYE KHOZYAYSTVO in Russian No 7, Jul 84 pp 48-49

[Article: "Navigation Safety of Fishing Vessels and Submarines"]

[Text] Reports have been appearing in foreign press lately, which express serious concern over a new situation that threatens the safety of marine fishing: the increasing frequency of entanglement of submarines in fishing trawls.

Such incidents become possible owing to the fact that submarines of some capitalist countries violate the international maritime law by disregarding the interests of fishermen and interfering with freedom of navigation when they enter traditional fishing areas, cause material damage and create a threat to the loss of people and vessels. This is confirmed by numerous examples.

Thus, in July 1982 the crew of a small Irish fishing vessel headed by captain Noel Kirwan was on a routine fishing voyage. On noting that the warps of the trawl became very taut, the fishermen counted on a good catch. However, suddenly the vessel sharply lurched forward and then was rapidly pulled by the warps under water and began sinking to the bottom. Fortunately, all fishermen were able to save themselves.

This incident was examined by a special commission, which expressed an opinion that it was caused as a result of the trawl's entanglement with a submarine.

A similar danger lay in wait for the English fishing trawler "Algri," which was trawl fishing near the southwest coast of Great Britain. Everything proceeded in the usual order on the vessel. Suddenly the vessel tilted to one side and there was a danger of it capsizing. The experienced captain ordered that the steel warps, which towed the trawl, be quickly cut down and the vessel straightened out. It was established later that a large English submarine which passed on the bottom became entangled in the fishing nets. The expensive trawl and warps were lost, but the crew and vessel were saved owing to the correct actions by the captain.

According to the accident chronological account by the Lloyd's of London, four such incidents occurred in 1980 alone. Most often they occur in the La Manche Channel and in the North Atlantic waters.

The skipper of the small English fishing trawler "Fleet Lady" with a displacement of 82 t was fishing with a trawl. Suddenly the vessel began to settle on the stern. The seaman, who has already heard a lot about similar incidents, saw only one way of being saved, the warps were cut down on his orders and the vessel began to drift after leaving the area. After a while, a Danish submarine floated to the surface.

The trawl of the Danish trawler "Inga" was also entangled near the north coast of the Jutland Peninsula by a West German submarine, which participated in the FRG naval fleet maneuvers.

A whole series of similar incidents also involved French fishing trawlers.

Fishermen of a French trawler, who were fishing in the Atlantic, were under a threat of death for almost 1 hour. The trawler was pulled at great speed by its warps for nearly 12 km until the captain realized that his vessel was probably pulled by a submarine and ordered that the warps be cut. This incident occurred between the western coast of Great Britain and Ireland.

While trawling near the coast of Ireland, fishermen of a French trawler noted that some force was pulling their vessel in reverse. A large American submarine, which was entangled in a fishing trawl, shortly surfaced close by. The crews of the submarine and the victimized vessel required several hours to free the submarine from the trawl.

Two West German trawlers, which were fishing in the North Sea at a short distance from each other, have experienced tugs simultaneously. After some time, a Norwegian submarine, which was entangled in the trawls of both vessels, appeared on the surface.

According to a REUTER report, the captain of a Greek fishing vessel, which was in neutral waters, on learning that "something big" got entangled in the nets, thought that it was a shark. However, on seeing a periscope of a submarine on the surface, he immediately ordered that the ropes be cut. The Greek fishermen hurried to leave the place of incident, since a Turkish squadron torpedo boat was already rushing to the aid of the submarine which was in trouble.

Fishermen of two small Japanese fishing vessels, which were fishing from two boats with a seine in the Kyushu Island area, almost perished when the submarine "Oyashio" of the Japanese Navy suddenly surfaced, snagged on the cable which connected the two vessels and almost turned them over. The fishermen were able to cut the cable at the last moment and break away from the submarine, which continued to move at full speed.

The incident in the Bay of Cadiz was termed by Spanish newspapers as a "potential (Palomares)." It is known that an accident involving an American bomber with nuclear arms aboard occurred in the (Palomares) area. This time it was possible to avoid an accident. The cause of the alarm was an American submarine, which had 16 Polaris missiles aboard with the explosion force of one of them being equal to an explosion of 500,000 t of trotyl. In surfacing during

maneuvers, the submarine got caught on a cable of a West German tug, which was guiding a cargo ship from the Rota port. The destruction of the nuclear submarine in the bay could have led to a radioactive contamination many times greater than the one registered during the accident in (Palomares).

The aforementioned examples are sufficient to warn captains of fishing vessels and members of their crews against the serious danger that really exists at present in the world ocean and threatens, first of all, the vessels that are engaged in trawl fishing.

On the basis of expert advice received by the editorial office, captains of fishing trawlers must know and always remember the following:

During a vessel's presence in fishing areas, which are located in economic and fishing zones of foreign states, it is necessary to constantly receive (without missing periods) reports over the radio on changes in the navigation situation and navigation conditions (NAVAREA), which inform about temporary closing for navigation of areas (firing ranges) of naval ship activities. Information on the organization of the navigation warning system is contained in the "Broadcast Schedules of Reports for Navigators," which are published by the GUNIO [not further identified] of the USSR Ministry of Defense [MO].

Before positioning a trawl it is necessary to thoroughly examine the water area around the vessel and to use radar under limited visibility conditions in order to make sure that there are no periscopes or buoys, which may be released to the surface by submarines for radio communication with the coast.

If a heavy body gets into a trawl and the vessel reduces speed or stops, it is necessary to switch on sonar equipment immediately, and if there are explosive packets (grenades) aboard, to throw several explosive packets (two or three) overboard within 1-minute intervals. This is a signal to a submarine that a vessel is next to it and it is dangerous to surface. Then according to the condition of the warps of the trawl to determine if it changes its position in water or not (it is possible that it got caught in the ground). If the trawl shifts, it may be assumed that a submarine got caught on it. In this case it is necessary to cut down the warps and without switching the sonar equipment off to move in the opposite direction from the trawl to a distance of 10-15 cable lengths, turn to drift and wait for the submarine to surface. The occurrence must be immediately reported to own leadership on the coast by indicating the location, the side number and national affiliation of the submarine. Further action must be according to the situation and instructions from fleet leadership.

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FISHING FLEET DEVELOPMENT

BETTER ENGLISH INSTRUCTION FOR SHIPS' OFFICERS URGED

Moscow RYBNOYE KHOZYAYSTVO in Russian No 7, Jul 84 pp 55-56

[Article by V. G. Latyshev, ocean navigation captain of the Latvian Fish Industry Association (Latrybprom): "Do You Speak English, Captain?"]

[Text] During the past several years, the numerical strength of the Soviet fishing fleet has greatly increased. There are considerably more calls at foreign ports, many Soviet ships work in mixed companies, they haul supply cargo and almost every vessel is checked by coast guard representatives of foreign states and inspectors of international commissions.

It is assumed that English, the international language of seamen, is known to a sufficient degree by every captain and most navigators. According to an order of the Latvian Fish Industry Association, English was included in the list of mandatory subjects during technical minimum tests. In this case the following knowledge must be demonstrated: reading and translating a text according to one's field of specialization, talking with a harbor pilot, an agent, a ship supplier (ship chandler) and port authorities and composing letters, telegrams and various documents in English.

It cannot be said that the innovation was welcomed with enthusiasm, even if the necessity of knowing the foreign language was not denied. It is true that English was studied by all in school, but this was long ago and the requirements in school were lower. The knowledge of the language was not used for some time after graduation from school. Much was forgotten. Therefore, passing an English language test was not an easy task. Some tried to pass the English language test by using old knowledge and experience, which was acquired during calls at foreign ports. Such knowledge is obviously not sufficient for work under contemporary conditions, the active stock of words is extremely limited.

Continually functioning English language courses headed by three teachers-enthusiasts were organized at the educational and instructional course combine of the Latvian Fish Industry Association to help navigators and seamen of other fields of specialization. The teachers also conduct English language tests.

The facility allocated for the courses is located not far from the port. The studies are tastefully arranged. There are a magnetic tape recorder, a record

player and a movie camera. Those attending the courses can listen to recorded English language texts, their own pronunciation and view an English language film.

Initially, the students numbered in dozens. As in the old times, it was assumed that it was a temporary campaign and one can try "putting pressure" on a teacher by informing him that a vessel is about to leave on a voyage and that the English language test alone keeps a captain away from his ship and delays its putting to sea.

It would be a falsehood to write that this did not happen. It is somewhat awkward to delay a vessel, and even more awkward to have a doubt in the knowledge of a respectable seaman. But knowledge did not rise from such urgent "taking" of tests and the number of students of the courses did not increase.

The chief captain's service of the Latvian Fish Industry Association aided in the improvement of English language knowledge by navigators. A decision was adopted: captains, senior captain's aides and second captain's aides (during their promotion to senior aides) will take English language tests in the chief captain's service of the association. All workers of the chief captain's service will receive a 10 percent pay increase for English language knowledge. Under such organization of the matter, captains and senior captain's aides are making more serious preparations for tests and there is a possibility to meet navigators once more, to determine the level of their professional knowledge and to find out how they are working on themselves and how erudite they are.

It is impossible to learn a foreign language in a few days, it requires constant, systematic study over a period of many years. The knowledge of a foreign language helps in learning more deeply about one's own native tongue and in understanding the meaning of words more accurately. In reflecting the culture, customs, ways and the way of life, it helps in getting to know and in understanding the other people.

The knowledge of a foreign language by a captain is also necessary based on the following positions. As a rule, a captain on a vessel is a competent person who voluntarily or involuntarily is used as an example by many crew members and imitated as to how he behaves himself, his ability to do things, his knowledge and even the way he dresses.

In taking English language tests, some captains say that their knowledge of the language was quite sufficient during contacts with foreign citizens when they visited a foreign port and that they cannot understand why they are not assigned a test.

Let us tentatively characterize three basic levels of English language knowledge:

1. "You understand and you are being understood." This is possible even with very poor knowledge of a foreign language, but foreigners immediately determine your poor knowledge, attempt to guess what you are trying to say and choose

the simplest words so that you can understand them. But you cannot understand anything when they talk among themselves, so there is only a semblance of a conversation. With such level of knowledge of a foreign language, they say modestly: "I can socialize in English."

2. "You understand, you are understood and you understand when foreigners speak among themselves." But after the first two or three sentences a question follows: "Where are you from?" You were betrayed by accent, pronunciation and sentence structure. At this stage of knowledge of English a captain can be entrusted with a business conversation.

3. The same as for level two, plus absence of accent. There is no defect in pronunciation, the sentence structure is correct. The ability to use in conversation of examples from literature, folklore, proverbs and sayings, examples from history and expressions by outstanding individuals. Probably, this is close to what is referred to as speaking a language fluently.

Our requirements are directed so that the knowledge of English by captains of the Latvian Fish Industry Association is not lower than level two. On passing tests at the chief captain's service, many captains translate quite easily from Russian into English and converse on all possible topics: a conversation with a physician, an agent, the authorities and even about literature and sports.

The increased attention in the system of the Latvian Fish Industry Association to the knowledge of English by the ships' command personnel has led to the fact that by March 1984 more than 460 people have registered and are successfully taking 3-year English language correspondence courses at the educational and instructional combine of the Latvian Fish Industry Association. Thirty workers of the Latvian Fish Industry Association have received a 10 percent pay increase for knowledge of English. It may be stated with confidence that their knowledge corresponds to today's requirements.

Unfortunately, not all navigators of the Latvian Fish Industry Association are devoting proper attention to the study of English language. The situation at the Liyepaya BORF [not further identified] is worse than at the Riga fleet bases. Recent graduates of sectorial VUZs and navigation schools have a poor knowledge of English. Perhaps educational institutions should devote more attention to conversational speech, modern methods for supplementing vocabulary, reading and translating texts according to field of specialization and terms and definitions of the maritime law and commercial practices. It is very important that graduates of sectorial educational institutions show an example of what a modern seaman must be and pull others up to their level.

The mastery of English language by captains, senior captain's aides and the ship's foreign travel command personnel is a very important matter. Therefore, it seems to be useful to conduct a sectorial conference on this subject with the participation of specialists of various subdivisions of associations and to generalize the available experience.

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PORTS AND TRANSSHIPMENT CENTERS

MINISTRIES CONFER ON INTERSECTOR TRANSPORT COORDINATION

Moscow ZHELEZNODOROZHNYI TRANSPORT in Russian No 6, Jun 84 pp 5-7

[Article: "Party Concern for Cooperation of Related Enterprises"]

[Text] The efficiency of the country's unified transportation system depends to a great extent on the successful work of connecting points of various means of transportation--transportation centers. Here the interests of many ministries coincide and problems arise on the successful solving of which depend the speed of national economic cargo movement and expenses for transportation. In 1978, the resolution of the CPSU Central Committee "On Labor Cooperation of the Collectives of Seamen, Railwaymen, Motorists and Rivermen at the Leningrad Transportation Center" approved the leading experience of Leningrad transportation workers who had introduced in their work the system of continuous work plan-schedule of the transportation center [NPGRTU]. This experience has been widely disseminated and developed in the past few years.

At a joint meeting in the latter part of March, party committees of four ministries--the USSR Ministry of the Maritime Fleet, the USSR Ministry of Railways, the RSFSR Ministry of Motor Transport and the RSFSR Ministry of the River Fleet--analyzed how party organizations are fulfilling the resolution of the CPSU Central Committee and defined the tasks of communists of these ministries aimed at further improvement of intersectorial coordination.

Reports were delivered by B. P. Trunov, deputy minister of the USSR maritime fleet; V. N. Butko, deputy minister of the USSR railways; V. D. Medvedev, deputy minister of the RSFSR motor transport; and N. P. Gor'kov, deputy minister of the RSFSR river fleet. Participating in the debate were A. A. Lykho, chief of a department and secretary of the party organization of the Transportation and Operation of the Fleet and Ports Main Administration of the Ministry of the Maritime Fleet [MMF]; V. V. Tikhonov, chief of the Transportation and Forwarding Service Administration of the RSFSR Ministry of Motor Transport [Minavtotrans]; G. A. Tarin, chief of the Ports Main Administration of the RSFSR Ministry of the River Fleet [MRF]; and V. A. Suchkov, secretary of the party committee of the Ministry of Railways [MPS]. The meeting was addressed by Yu. A. Mikhaylov, chief of a sector of the Transport and Communications Department of the CPSU Central Committee.

It was noted in reports and addresses that the goal-directed work of communists and collectives of ministries and the persistent organizational and political

work of party organizations aimed at implementing the resolution of the CPSU Central Committee contributed to the balanced use of material and manpower resources, acceleration of cargo deliveries and reduction of transportation expenses in the national economy. The transportation process management system has improved in transportation centers. There are now 39 such centers operating in the country on the base of maritime ports and 62 on the base of river ports and many railway stations. Coordination councils of transportation centers have been established locally and a central coordination commission in Moscow. Experience proves that questions of coordination are solved without confusion and failures there where the work of coordination councils is conducted under the supervision of local soviet organs with the participation of leading supervisors of related enterprises and under the control of party organizations. Extensive work to improve interaction of various means of transportation at the intersectorial level is being conducted by the Central Coordination Commission of Transport Ministries with participation of ministries which ship and receive cargo.

Almost 90 percent of the overall volume of cargo processing in maritime ports is carried out in cooperation with other transportation workers according to the system of continuous work plan-schedule of transportation centers, in so doing the continuous plan-schedule is conducted in an automated regime in 22 ports. The Ministry of the Maritime Fleet is conducting work aimed at establishing transportation centers on the base of all remaining ports, which interact with related types of transportation and shippers and recipients of cargo.

The experience of Leningrad workers, which was approved by the CPSU Central Committee, was disseminated not only in breadth but in depth as well and the system itself of correlated continuous planning and coordination of work of related enterprises was improved and deepened. A form of work coordination of port workers and shippers (recipients) of cargo, such as direct agreements, is being successfully disseminated. The ultimate task of this undertaking is coordination of cargo transportation "from door to door." The Leningrad commercial seaport has concluded direct agreements with the Volga Motor Vehicle Plant [VAZ] and the Kama Motor Vehicle Plant [KamAZ]. The Odessa port and the Cherkassy Azot Association have organized coordinated transportation of chemical cargo by motor transport and the river fleet as well as transfer of cargo from river to seagoing vessels according to the direct "side-side" version. Working according to direct agreements in addition to the Leningrad and Odessa ports are also the ports of Ilichevsk, Tallinn, Izmail, Novorossiysk, Nikolayev and Zhdanov.

In 1982, an experimental operation of a system for processing and transferring cargo documents with the aid of a minicomputer on the Leningrad-Tilbury (England) route was begun on the base of the Leningrad port in order to ensure the reduction of layover of ships in port to a minimum of time needed for processing documents. This experience will be further developed and disseminated.

A great contribution to the development of the Leningrad workers' initiative was made by related enterprises of Ilichevsk, who had developed a comprehensive plan for economic and social development of the Ilichevsk transportation center

in the 1979-80 period. This experience was approved and recommended for dissemination in other transportation centers.

Work coordination of related enterprises within the framework of transportation centers on the basis of continuous work plan-schedule of transportation centers has yielded good results. Shipment of cargo from maritime ports via the most economic direct version has increased 1.6-fold from 1977 to 1983. In 1983, 500,000 more carloads of imported cargo was shipped to recipients than in 1977. By reducing the layover of cars under processing in maritime ports some 580,000 standard cars were released during this period, including more than 220,000 cars in 1983. Great reserves in economizing the car park was revealed by the movement of thousands and two thousands. Dockers of maritime ports assumed pledges to load 1,000 and 2,000 kg above the established static load plan through rational distribution of cargo and more fuller use of tonnage. As a result, maritime ports released more than 255,000 cars during the 1977-83 period. Altogether maritime ports released more than 835,000 cars during this period.

The volume of import cargo routing was increased. In 1983, nearly half of all imported cargo was dispatched by railway routes, and at such transportation centers as the Kandalaksha, Batumi, Izmail and Vostochnyy the route dispatching of cargo exceeded 80 percent and in the Novorossiysk and Nakhodka centers 70 percent. The economic effect from introduction of continuous work plan-schedule of transportation centers during the 1978-83 period amounted to more than R80 million, including more than R30 million in 1983.

Extensive work was conducted by collectives of transport ministries in 1983 in transporting cargo to regions of the Far North--44 million t of cargo was delivered. The quantity of imported cargo in maritime ports in 1983 as a whole was reduced by 700,000 t. Good results were achieved by the Odessa and Baltic railroads. The transportation centers of Novorossiysk, Leningrad, Murmansk, Tallinn, Klaypeda, Nikolayevsk and Zhdanov worked steadily. The remainder of cargo was reduced by 1.8 million t by the end of the year.

Socialist competition among related enterprises is developing successfully, as a result of which cooperation and mutual assistance of labor collectives is being strengthened and their interest in prompt processing of transportation means, improving quality of labor and perfecting cargo processing and transporting methods is growing. Best results were achieved by collectives of the Odessa, Ilichevsk, Murmansk, Moscow, Yuzhnyy, Cherepovets, Lesosibirsk, Saratov and Volga-Don transportation centers.

The staffs of transport ministries are functioning in a more well-coordinated manner. The Ministry of Railways and the Ministry of the Maritime Fleet have developed five joint documents, which define the order for developing unified technological processes and correlated plan-schedules, efficient stock-taking of loading and unloading of cars, planning and recording work by enterprises of a transportation center and using the means of computing technology.

Positive results from broad introduction of Leningrad transportation workers' experience were obtained as a result of extensive daily organizational and

mass political work by party organizations at all levels. Joint meetings of party committees and collegiums, party meetings and sessions of party bureaus of administrations and associations, production conferences and scientific and practical seminars and conferences have become an integral part of practical activity.

The reporters and speakers at the joint meeting of party committees of the four transport ministries have also revealed shortcomings which reduce effectiveness of joint actions and made proposals aimed at further improving the organization of the transportation process. As noted by B. P. Trunov, 11.7 percent of cars called for by the plan were not made available to maritime ports in 1983. As a result, the pace of work of container terminals in Ilichevsk, Leningrad and Vostochnyy was disrupted. The question of developing port stations is becoming more urgent. The measures outlined a few years ago are being fulfilled slowly. Thus, out of the R3 million allocated for the development of the Novyy Port station in Leningrad only R16,000 were used in 1983. The development of the first stage of the Novorossiysk station planned for the 1982-85 period was extended by 2 years.

B. P. Trunov made some proposals to improve the work of transportation centers. It is necessary, first of all, to intensify the work of the Central Coordination Commission of Transport Ministries and to regularly hear reports at its meetings by supervisors of enterprises who are responsible for the work of a transportation center. Second, to establish the amounts of a unified economic incentive fund and the order of payments from it to participants in a transportation center for accelerating processing of transportation means proportionately to their contribution. Third, to work out and make changes and additions to existing normative documents of ministries and departments which reflect mutual responsibility of enterprises of a transportation center. Fourth, to intensify control over fulfillment of measures aimed at eliminating disproportions in the development of ports and port stations and at fulfilling unified plans for economic and social development of transportation centers.

One of the reasons which hinders further deepening of interaction, as noted by V. N. Butko, is the lack of balance between the plan for shipments and the availability of cargo. If for workers of stations it is precisely the plan for shipments that is most important in work, then for workers of ports this indicator is only one that is to be taken into account. Therefore, often collectives of seamen fulfill their pledges and plans, but railwaymen do not. It turns out that competing collectives are placed under unequal conditions. Hence interrelations become complicated and correct distribution of cars becomes difficult. Railwaymen can promptly supply ports with cars only if they have balanced plans for shipments. There are real possibilities for drawing up such plans for delivery of cargo with instructions as regards railways and stations of destination. Our ministries must find a solution to this question so that collectives of port workers and railwaymen would be able to work according to a unified schedule.

A great reserve of the unified transportation process is in more active utilization of river transportation of the RSFSR and the Ukraine for shipping grain,

metal, ore and raw sugar from Black Sea ports to areas of the Ukraine, the Center, Volga, the Urals and Siberia. Today, this cargo is delivered by railways that parallel waterways. In this case, if in 1982 the Ministry of the River Fleet transported 1 million t of grain, then in 1983 it transported only 300,000 t. It is economically expedient to transfer a great share of cargo on some directions to rivermen and release cars for other purposes.

The use of cars in maritime and river ports arouses concern. Whereas a large number of ports are improving the use of the rolling stock, the maritime ports of Riga, Ventspils, Vyborg, Kaliningrad and Reni and the river ports of Gorkiy, Kirov, Yaroslavl, Omsk and Tyumen are processing cars poorly. Special concern is caused by delays in unloading of cars in the ports of Osetrovo and Vanino. Thus, only 40 percent of delivered cars were unloaded in Osetrovo during the navigation season and because of this a large number of cars accumulated on the East Siberian Railroad waiting to be delivered to the port. This question must become a subject of special concern of the Central Coordination Council and of all collectives of transport related enterprises.

The difficult situation with hauling cargo from the Magadan maritime port was described by V. D. Medvedev. The volume of cargo hauled from this port is constantly growing and the Magadan Territorial Motor Transport Association is developing accordingly. However, due to various organizational hitches the rate of increase in the volume of cargo hauled is being slowed down. A unified technological hauling process has not been introduced here and the production base of the motor enterprise is being developed poorly.

Special concern is caused by those transportation administrations and motor transport enterprises where proper attention is not being devoted to the important work on cooperation agreements. Many agreements are concluded in a bureaucratic manner. They do not provide for such most important indicators as reduction of layovers of ships, cars and motor vehicles under cargo handling operations, reduction of the remainder of unhailed cargo and reduction of the container turnover time as well as raising the level of centralization in delivering and hauling cargo by motor transport. Computing technology is being introduced slowly in planning and management, and it is difficult to plan and organize the work of transportation centers without it.

The shifting of short-distance hauls from railway to motor transportation is an important reserve for increasing the efficiency of the transportation process. This will make it possible to release a large quantity of cars. The question of further mechanization of loading and unloading operations at railway stations and in ports requires a solution. First of all, this applies to the processing of large-capacity containers. Usually there is only one crane for handling them at railway stations and when it breaks down the pace becomes disrupted and the layovers of specialized motor vehicles grow.

The difficulties in the work of the Osetrovo port were also confirmed by N. P. Gor'kov. There is a shortage of warehousing facilities here, the capacity of berths is limited and the capacities of specialized container berths are being used poorly. Therefore, coordinated work of related enterprises and quality planning of work at the center is especially important.

Great concern is now caused by the fact that contrary to directive instructions much cargo to areas of Siberia and the Far East is still not being delivered in containers or packages. On account of this the eastern ports have been transformed into packaging shops and are spending considerable resources for this purpose. Last year alone, the rivermen packaged 1.7 million t of cargo. It is necessary to change rapidly to packaging and containerization of cargo everywhere.

It is necessary to devote serious attention to developing a system of mutual responsibility of transportation enterprises for prompt cargo haulage from ports. There is a good experience of the Lvov and North Caucasus railroads in paying bonuses to supervisory workers of stations for fulfilling a cargo processing plan with their own manpower. It would be quite well to disseminate this experience at other enterprises of the Ministry of Railways, which are working with river and maritime ports.

A. A. Lykho described the joint work of party buros of the Transportation and Operation of the Fleet and Ports Main Administration [Glavflot] of the Ministry of the Maritime Fleet and the Freight and Railway Traffic Main Administrations of the Ministry of Railways, which in response to an appeal by party organizations of the Riga maritime port and the Baltic Railroad have outlined a complex of joint measures aimed at further improvement of the transportation process.

G. A. Tarin noted that the situation has improved considerably in centers where party organization are actively participating in introducing a new form of cooperation of transportation enterprises. However, appraising the situation at many transportation junctions from party positions, the work in its final result cannot be regarded as completely satisfactory. Thus, the volume of mixed railway-waterway shipments in the 1978-82 period had a tendency toward reduction. They are also increasing slowly at present. Some supervisors of main administrations of the Ministry of the River Fleet, steamship companies and ports display formalism and substitute important organizational work with slogans on changing to work according to Leningrad workers' experience. Life punishes gravely for these errors, as it happened at the Ust-Donetskiy, Kotlas, Perm and other centers. The troubles of rivermen and railwaymen often originate in Moscow--in the private offices of main administrations of the Ministry of the River Fleet and the Ministry of Railways.

V. A. Suchkov stressed that there is no doubt about the usefulness of joint meetings for further improvement of the transportation process. In solving the task with regard to disseminating and developing the Leningrad transportation workers' experience, the party committee of the Ministry of Railways aims collectives toward perfecting management and comprehensive development of the sector in the light of the resolution of the CPSU Central Committee "On the Work of the Party Committee of the Ministry of Railways in Developing the Initiative and Raising Responsibility of Communists of the System for Fulfilling the Decisions of the 26th Party Congress and the November (1982) and June (1983) Plenums of the CPSU Central Committee." There must be more closer contacts between related enterprises. Owing to lack of coordination in the work with other ministries, the Ministry of Railways often sustains noticeable losses. If there is no coordination

with related enterprises, then meetings are reduced to conversations and arguments without coming up with a solution. It is easier to solve any problem together.

It was decided at the joint meeting of party committees of the four ministries to regard further improvement of interaction of various means of transportation for achieving the maximum national economic efficiency as the most important task of communists and all workers of the systems of the Ministry of the Maritime Fleet, the Ministry of Railways, the RSFSR Ministry of Motor Transport and the RSFSR Ministry of the River Fleet. Further improvement of comprehensive socialist competition of collectives of transportation centers and related enterprises on the basis of a continuous plan-schedule and its norms must become one of the most important tasks of party organizations. Party organizations must intensify mass education work and broadly propagate the leading work experience of transportation centers.

Taking into consideration the importance of the question discussed at the joint meeting of party committees of the four transport ministries, the Ministry of Railways sent a telegram to chiefs of railroads and branches in which it described the results of the meeting and set improvement in the interaction of all means of transportation as the most important task. Instructions were given to adopt all measures for further improvement of intersector transport coordination and interaction on the basis of broad development of all kinds and forms of socialist competition. It is necessary to strive for improvement in the organization of comprehensive socialist competition of collectives of transportation centers and to raise personal responsibility for improvement of businesslike cooperation and work efficiency. It is necessary to step up the work of coordination commissions of transportation centers and to direct their efforts toward unconditional fulfillment of the established cargo transportation plan for 1984 and the 11th Five-Year Plan as a whole.

All transportation organizations and enterprises must mobilize available reserves for increasing the volume of cargo transportation and exert every effort for improving transportation work in the light of the demands of the 26th party congress and the decisions of the December (1983) and February and April (1984) plenums of the CPSU Central Committee.

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PORTS AND TRANSSHIPMENT CENTERS

CURRENT ACTIVITIES OF ZAPOROZHYE PORT

Moscow RECHNOY TRANSPORT in Russian No 5, May 84 p 25

[Article by V. Arinchenkov, chief of the department of transportation and communications of the Zaporozhye obkom of the Ukrainian Communist Party under the rubrik "In a Red Banner Collective": "River Gateways of a Large Industry"]

[Excerpts] The dock lines of the harbor at the upper pool of the Dnieper Hydroelectric Power station were put into operation 1 June 1934. This date was the birthday of the Zaporozhye River Port imeni V.I. Lenin--one of the largest enterprises of the Main Administration of the River Fleet under the Ukrainian SSR Council of Ministers. Its designated purpose is to satisfy requirements for transport of cargo and passengers of a vigorous industrial center and city built near the Dneproges [Dnepr Hydroelectric Power Station]. In 1934 91,000 tons of cargo were handled and in 1940 353,000 tons.

Today the Zaporozhye Port is a modern mechanized enterprise processing not only river ships, but also mixed river-sea navigating ships which transport export-import cargo. Its docks handle iron ore and bauxite, manganese ore and iron ore pellets., metals and equipment, mineral-construction materials, and containers.

In 1983 the volume of cargo handled reached 16.9 million tons, and the number of passengers transported surpassed 3.3 million people. The port's fleet shipped 5.8 million tons of national economic cargo. One fifth of the volume transported is conducted in the extended navigation period and in winter. The loading and unloading of construction sand is carried out with the help of hydro-mechanized equipment. The river transport share is 17.4 percent of the overall volume in the local Zaporozhye area.

The port's collective was the initiator of the competition of associated industries on the principles of continuous planning of loading-unloading work. As a result yearly the processing time of transport equipment has been lowered, the period for delivery of cargo has been shortened and new cargo traffic flows have been developed. In 1983 the processing time for ships and railroad cars was shortened by 11.9 and 17.4 percent respectively, compared to established norms. Labor productivity in handling work was 101.5 percent, and in transportation work it was 101.9 percent. A profit of more than 100,000 rubles above the plan was obtained, and the prime cost for handling was lowered by 8.3 percent and for shipping by 2 percent.

The port employs 1,700 people, 90 percent of whom are involved in individual and brigade competition. More than 900 people participate in the movement for a communist attitude toward work.

The state plan for the third year of the five-year plan has been fulfilled ahead of schedule for all indicators. During this period, they exceeded the plan by 1.5 million tons for processing national economic cargo by 288,000 tons for shipping and by 470,000 passengers.

Today when the navigation season is in full swing, the collective is working hard to fulfill its plan assignments and social obligations successfully in 1984 and for the five-year period as a whole in order to make a worthy contribution toward strengthening the economic power of the Motherland.

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PORTS AND TRANSSHIPMENT CENTERS

DEVELOPMENT, OPERATIONS OF ZAPOROZHYE PORT

Moscow RECHNOY TRANSPORT in Russian No 5, May 84 pp 26-27

[Article by V. Sadovenko, chief of Zaporozhye Port imeni V.I. Lenin: "Components of Success"]

[Excerpts] Every year the port's collective has raised work efficiency and has steadfastly fulfilled state plans. The assignments for the third year of the five-year plan for handling cargo have been fulfilled by 103.3 percent and for transporting of cargo and passengers by 101.7 and 105 percent respectively.

More cargo should be carried by water transport, above all foreign trade which is delivered by ships of the Ukrainian SSR Glavrechflot [Main Administration of the River Fleet] without transshipment at the mouth of the Dnieper has great significance for stable work. The possibility for such shipment depends on the availability of mixed river-sea navigation ships, the reconstruction of waterways, and the equipping of river ports with modern handling equipment.

The first ship arrived from Italy in June 1977 with equipment for the Druzhba gas line. The collective coped with the handling of this cargo successfully. More than 5,000 tons of general import cargo was shipped by the end of the year. In order to load the ships for the return voyage processing of scrap metal for export was organized, and approximately 8,000 tons of it were shipped in the same year. Since then the volumes of foreign trade cargo have continually grown. In the first three years of the 11th-Five-Year Plan more than 1 million tons of it was processed.

To improve transport-dispatch work in handling imported cargo a branch of the Kherson office of All-Union Soyuzvneshttrans was organized at the port. It keeps regular records, monitors the safekeeping of the cargo and sees that documents are filled out correctly and on time.

The proportion of foreign cargo (sheet steel, metal pipes, rolled ferrous metal, strip steel, tire, steel rings, steel band, and reinforcement steel) amounted to 2.4 percent of the total volume handled at the port in 1983 and their profits were 14.6 percent of the total profits from the handling of cargo.

The port has significant know-how in the handling of foreign trade and is interested in increasing its shipment. However, to do this it is necessary to put a number of measures into practice. For example, the railroad systematically fails to fulfill the plan for providing cars to load imported cargo and impedes the development of port railroad stations, and it is still necessary to resolve the matter of handling imports at a specialized berthing line.

In the 11th Five-Year Plan the Ukrainian river transport workers have fulfilled the important task of switching the shipment of iron ore pellets delivered from the Poltava mining-concentration combine to the Zaporozhye Steel Plant from railroad to water transport. Test shippings were made as early as 1981. The port assigned a fourth berthing line for this purpose and prepared gantry cranes, warehouses, and cargo-grappling devices; Glavrechflot prepared its ships and the railroad prepared hopper car shuttle-trains. In one year 500,000 tons of pellets were transported and shipping and transshipping equipment and technology was precisely worked out.

Pellet shipment was also conducted during the winter of 1981-82. Iron ore shipment was continued at full capacity into the second and third year of the 11th Five-Year Plan. The switchover of pellet shipping to water transport has improved the supply of high-quality raw metals to the plant; provided it with a reserve store of 60,000 tons; made it possible to free up a significant number of railroad cars, decreased transportation outlays, and sharply cut losses of cargo en route.

The Zaporozhye port workers actively participate in the shipment of construction materials for all the most important new construction sites in the oblast and the Dnieper region. In 1983 alone around one million tons of rock, gravel, and sand were transported for the nuclear power plant at Energodar.

The hydro-mechanization of the loading and unloading of construction sand has been successfully implemented. There are considerable new, advanced elements in the mobile conveyor for extracting, transporting and unloading of sand. A modern hydraulic loader of the DO-12 design with a capacity of 900 tons per hour is used for sand extraction. The loader was built at the Zaporozhye ship building and repair plant. Barges of the 974A design with bunkers located on the deck that make it possible to shorten loading and clean-up time are used for shipping. Wide passageways along the sides provide necessary conveniences for ship personnel and waterway workers. The bunker's design and the high necks on the hatches prevent water from entering the hold when the ships are processed by hydraulic-mechanized equipment.

River transport workers have shown special concern for passenger transport. Around 10 million people were carried in the first 3 years of the five-year plan. A great deal of attention has been given to raising the quality of passenger service. The port leases its best ships to the Zaporozhye office for trips and excursions. More than 117,000 people including 5,000 foreign tourists have taken the cruise around the legendary Khortits Island. The port has ships equipped with sleeping berths for long excursion up to Kiev and down to Kherson.

Zaporozhye's oblast and city organizations have given a great deal of attention to amenities and architectural appearance of the train terminals and terminal grounds. In the city's Zhovtnevoy Rayon, a wide green-lined road runs to the Zaporozhye river terminal; in the Leninskiy Rayon the grounds of the Port imeni V.I. Lenin river terminal have been fixed up and a unified artistic ensembl with a monument of Vladimir Ilich in the center has been built.

Much has been done to organize year-round work in river transportation. Winter shipment of mineral and construction materials for the Zaporozhye AES and city enterprises is carried out. For this purpose the port is preparing the fleet and cargo transporting equipment to work under subfreezing conditions and is insuring the safety of navigation.

A coordinating group for combined operational activities of associated industries for fulfilling shipment plans has been established and is based at the port. In 1983 the coordinating group conducted 24 sessions. Joint decisions are included in shift and daily plans. As a result the work of transshipping cargo from one type of transport to another has been improved: in 1983 715,000 tons of cargo above the plan were handled, fleet processing time was significantly reduced, 40,590 car-hours were saved, and the volume of cargo transshipment via direct method was increased by 10 percent.

A great deal of attention is given to environmental protection. Comprehensive service to the transport fleet by specialized ships, which yearly service around 20,000 ships, has been improved and they receive and deliver more than 5,000 tons of bilge water and waste oil to reprocessing points.

During the current five-year period more than 300,000 rubles have been saved, 30 men have been freed, and the labor of 24 workers has been mechanized through the implementation of 500 efficiency recommendations to improve production, as well as inventions.

Working on the Food Program, the collective continually helps the oblast's rural toilers (a grain cleaning line and a grain drying line have been installed, a sugar beet warehouse has been constructed and river transport workers participate in field work).

To increase the volume of foodstuffs and industrial goods and other cargo transported and handled in containers and packages, in the near future it is planned to develop an additional container berthing line at the first cargo area and to switch over to water transport a large part of the cargo traveling on the railroad running parallel to the Dnieper. This year work will be started by the Ministry of Railways to develop a port terminal at Port Velikoye Zaporozhye.

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PORTS AND TRANSSHIPMENT CENTERS

CHIEF ON OMSK PORT DEVELOPMENT, OPERATIONS

Moscow VODNYI TRANSPORT in Russian 26 Jun 84 p 1

[Article by V. Gutov, chief of the Omsk port: "Glorious Traditions"]

[Excerpts] The Decree of the Presidium of the USSR Supreme Soviet on Awarding of the Order of Labor Red Banner to the Omsk River Port

For successes achieved in the development of transportation of national economic cargo in Western Siberia and in connection with the 150th anniversary of its founding, to award the Order of Labor Red Banner to the Omsk river port of the RSFSR Ministry of the River Fleet.

[Signed] Chairman of the Presidium of the USSR Supreme Soviet K. Chernenko.

Secretary of the Presidium of the USSR Supreme Soviet
T. Menteshashvili.

Moscow, Kremlin
25 June 1984.

During the 1834 navigation season 150 years ago, 19 ships arrived at the Omsk berths, and R4,952 and 66 kopecks of income was received by the city administration from the wharf. From this date, as recorded in official archive documents, begins the history of our Omsk port--the largest cargo transshipment point on the Irtysh.

According to archive documents, less than 5,000 t of salt, flax and timber was unloaded at the wharf during the entire navigation that year... Today, more than 140,000 t of various cargo is handled in the port in 1 day alone. The Omsk wharf developed extremely slowly prior to the Great October Revolution. The port was really born during the years of Soviet power. But it developed especially intensively during the postwar five-year plan periods. The beginning of virgin land development is a memorable stage in the history of the Omsk port. During the fifties, the Omsk port was the main transshipment base

of virgin land cargo. Port workers dispatched timber, bricks, seed, coal, tractors and combines from the berths of the Kirovskiy and Leninskiy cargo regions...

Nevertheless, the virgin land development was only the beginning of the second birth of the port on the Irtysh. Its most rapid development occurred in the sixties when new treasures of oil and gas were discovered in Tyumen Oblast. The development of productive oil and gas deposits in the central and lower Ob regions and in the basins of the Konda, Nadym and Pur rivers has resulted in a considerable increase of cargo turnover in all ports of the Ob-Irtysh basin, but especially in the Omsk port. Cargo for oil and gas workers of Western Siberia arrived in the port from all regions of the country and even from abroad.

Every navigation season Omsk port workers shipped via the Irtysh and Ob rivers more than 13 million t of most varied cargo, considerable part of which arrived in the oil and gas extraction regions of Siberia. The port constructed new berths at an accelerated rate and increased their machine-berth ratio in order to fulfill such responsible tasks. During this period, the second stage of the Leninskiy cargo region was put into operation, construction of the third stage was completed later. Twelve additional portal cranes were assembled with simultaneous replenishment of the fleet, development of warehousing facilities and installation of new cargo storage areas and railway tracks.

Today, the machine-berth ratio of the berths has increased to two cranes per 100 m of the berth front. During the past 20 years, the number of vessels registered at the port has increased 12-fold and of transshipping equipment 3.5-fold. The overall length of berths has increased to 1.5 km.

Workers of the Omsk port were the first in the basin to support the initiative of Ilichevsk seamen by organizing consolidated complex brigades. They were again among the first in the sector to respond to the initiative of Leningrad transportation workers aimed at coordinating the work of related means of transportation. The port has unified integral process shifts in operation. Associated workers work on the basis of a plan-schedule which is common for everyone. The strengthening of cooperation among associated workers has made it possible to reduce the planned norms for the handling of vessels and cars and to reduce production costs in cargo handling operations. The growth and replacement of fixed capital as well as broad introduction of leading experience and progressive processing methods in cargo handling have contributed to an increase in the volume of transshipped cargo from 619,000 t in 1965 to 1,405,000 t in the current year. The Omsk port is now rightfully a leading operational enterprise in the Ob-Irtysh Unified Steamship Company and ensures nearly half of the planned cargo handling volume.

Omsk port workers are welcoming the professional holiday and their anniversary with good labor gifts. By the Maritime and River Fleet Workers Day, the collective was planning to process 2.5 million t of cargo above the plan for the first 3.5 years of the five-year plan and to reduce the processing time of the transit fleet by 5 percent and of cars by 1.5 percent against the established norms. These pledges were fulfilled! We are now setting the

task aimed at successfully fulfilling everything that was planned for the 11th Five-Year Plan, working efficiently and ensuring prompt shipment of cargo to oil and gas extracting regions in Tyumen Oblast and to all workers of Western Siberia.

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PORTS AND TRANSSHIPMENT CENTERS

RECENT DEVELOPMENT, CURRENT OPERATIONS AT ARKHANGELSK PORT

Moscow VODNYI TRANSPORT in Russian 26 Jun 84 p 2

[Article by special staff correspondents A. Gundorov and Yu. Boldenkov:
"The Pearl of the White Sea"]

[Excerpts] From time immemorial explorers traveled toward the White Sea via Severnaya Dvina and settled its coasts. The strong and courageous people--the Pomory--who were tempered in the struggle against severe nature, founded settlements here.

In order to protect the northern borders of the state, Russian tsar Ivan the Terrible commanded to build a wooden city at the mouth of Severnaya Dvina on the Pur-Navolok Cape. Arkhangelsk--the pearl of the White Sea--has been standing on that land since then. On entering its fifth century, it scrupulously preserves the memory of the past and confidently looks to the future.

The order-bearing collective of the Northern Maritime Steamship Company is the pride and glory of today's Arkhangelsk. One can come across the ships of this largest transportation enterprise in the north of the country on all blue waterways of the planet. One third of all lumber exported by Soviet industry is transported to the market abroad by Arkhangelsk motorships. Seagoing transports deliver important national economic cargo via Arctic routes to Dudinka, haul equipment for geologists, fulfill responsible operations as part of scientific expeditions and make substantial contribution to the construction of special purpose gas pipelines.

The selfless labor of northern navigators was marked by the Order of Lenin.

Arkhangelsk is the cradle of our country's shipbuilding and the oldest maritime port of Russia. Its entry into a new, fifth century was commemorated by another high award of the

motherland--the Order of Lenin, which was awarded to the city by a decree of the Presidium of the USSR Supreme Soviet of 10 May 1984 for its great contribution to the development of the maritime fleet, for many militant and labor achievements.

New in Ekonomiya Region

The role of the modernized Ekonomiya region is especially significant. Extended closer to the sea, with depths making mooring possible for large-capacity dry cargo vessels, it has tempting prospects.

We are walking on the newly built concrete berth with brigade leaders I. Parshutkin and N. Rybin.

"The old shallow-water berths on wooden piles and four portal cranes, which have seen a lot, stood right here surrounded by a swamp. This is the way the region looked quite recently," I. Parshutkin, brigade leader of a core drilling unit [UKB] who has worked here at least 20 years, explained to us

The real fruits of implementation of the historic party and government decisions on developing the handling capacity of ports and establishing in ports of specialized, highly mechanized transshipment complexes for handling containers and bulk and timber cargo were manifested most strikingly here at the Ekonomiya cargo region, which has acquired a second life after modernization.

The construction of a new cargo region at the mouth of Severnaya Dvina was caused by the necessity of bringing the capacities of the Arkhangelsk maritime port into accord with requirements of the developing economy in the Far North.

"The first construction workers came here more than 10 years ago," Ivan Vasilyevich continued, "and now we can see that large concrete berths with complete engineering support were built and put into operation, the first terminal for handling international class containers in the Far North was commissioned and the territory of the region is entwined by a dense net of railway tracks."

We have examined the Plauen-type metal warehouses, whose area totals more than 7,000 m² and a garage for means of small-scale mechanization with all auxiliary facilities, which is intended for 100 automatic loaders--all of this is a continuation of the new economy of the cargo region.

The balanced nature of construction is striking. Facilities for social and everyday use were rapidly erected along with production projects. An attractive block of everyday service facilities was constructed for workers of the region. During the years of modernization, port workers received three residential houses which are occupied by 318 families and a new store with manufactured goods and foodstuffs departments. There is no longer any need now to travel far off for purchases. This year, another multiunit house will be made available of occupancy, and a children's combine for 280 children is under construction.

The state has allocated nearly R67 million for renovation of the Ekonomiya region, and the invested funds are now repaying the debt with a ruble of full value.

N. Dorofeyev, chief economist of the port, is in the habit of using figures:

"The region became profitable 2 years ago. Last year, 1,144,000 t of cargo was processed here. Labor productivity has increased by 71 percent in 10 years. All of this has made it possible to ensure prompt transshipment of import and export cargo, mainly in containers."

The Ekonomiya region has been increasing the pace in transshipment of cargo year after year, but construction has not been fully completed: one more berth is being renovated and a complete equipment warehouse and other projects are under construction. The time is not far off when two, three times more cargo than today will be processed here.

Life does not stand still--it raises new problems. But the most important ones have been solved successfully: the region has mastered production capacities and has reached its planned goals. The main contribution to this was made by those who work selflessly to full efficiency day after day in accelerating the handling of ships and cars.

While talking with great animation about the Ekonomiya region's prospects, we continued our walk on the berths... Huge containers, with their metal sides shining, flow steadily into the holds of the motorship "Arkhangel'sk" and grab buckets, in emptying grain from the spacious holds of the "Isakogorka," click their steel jaws in a measured manner.

The two brigade leaders, our companions, are heading consolidated brigades which compete with each other. The brigade headed by N. Rybin, which mastered grain processing within a brief period of time, has emerged a winner for several months in a row.

Both brigade leaders have their own thoughts on how to raise labor efficiency and to increase the output of a highly mechanized complex. N. Rybin is concerned that not everything has been settled in interrelations with associated workers and that work stoppages often occur owing to the lack of cars. The main snag, in his opinion, is in the fact that the railway branch line from the Ekonomiya region to the Arkhangelsk-Gorod station has not been put into industrial operation until now.

Extra Early Voyages

During the seventies, extensive geological prospecting work expanded along the coast in the western Arctic region and land-lacking tundra on the Arctic Ocean coast. A large production association named Arkhangel'skgeologiya [not further identified], which was called upon to develop and master the natural riches, was established in Arkhangelsk. The new large-scale tasks could be solved only with active participation of the maritime transport. After long searches and

thorough calculations, the Northern Maritime Steamship Company came up with an original idea--to carry out cargo transfer across the ice berth.

"We sailed on the motorship 'Valdayles' heading toward Varandey, a settlement of geologists on the Pechora Sea coast," recalls V. Konyukhov, one of the organizers of the bold experiment and chief technologist of the steamship company. "The dry cargo vessel proceeded under guidance of the icebreaker 'Vasiliy Pronchishchev.' Very soon we began coming across hummocky pileups. Even a line icebreaker would have had difficulty in coping with them, but here an ordinary port icebreaker was crushing a path. Nevertheless, the skill of the crew headed by Capt Ye. Zubov and the level of training and self-control of seamen have won over nature--after crushing the ice the 'Valdayles' stood tightly in fast ice.

"We have brought with us nearly 3,000 t of equipment, pipes, cement and construction materials. Most of all we were concerned about unloading the pump of a drilling installation. Although it did not look very big, it weighed nearly 30 t. We strengthened the pavements and equipped a special sled. As soon as senior captain's aide Gonta-Mytnik, who stood at the controls of the cargo boom, lowered the heavy equipment on the sled, the ice cover shook violently, water and snow gushed from the crevices and blocks of ice began to arch. It looked as if the sled together with its cargo would sink to the bottom of the sea at any moment. But they were able to pull off the load with tractors away from the dangerous place. There were enough critical situations: all drivers drove on the ice with their cab doors open and there were instances when they fell into the ice font, warmed themselves up and got behind the steering wheel again."

R. Trebs, chief of the geological prospecting expedition, said in the evening that the "Valdayles's" voyage had breathed new life into the settlement. The delivered cargo had made it possible to commission the second drilling unit, construct a school and provide dwellings for 40 families.

The voyages to the ice berth develop in a different way. The Arctic is tricky and capricious. During some navigation seasons the seacoast is covered with such an ice armor that transport ships make their way through with difficulty.

Nevertheless, the experimental voyages to the ice berths have been transformed into regular ones and the formerly unfamiliar word combinations such as "winter sailing" and "extra early delivery of cargo" have firmly come into seamen's use. The hauling technology and organization of work on ice are being improved.

As of 1977, the Arkhangelsk port is working according to a year-round regime. Ships arrive in winter not only to take on cargo for geologists but to take on lumber as well. The "green gold" is bought eagerly by English, West German and Dutch firms and timber exports to the fraternal countries are growing. The acceleration of the timber conveyer, which is connected with intensive broadening of shipments in packages, dictates the expediency of replenishing the steamship company's fleet with specialized tonnage.

The export structure is being expanded as a result of new kinds of products. Maritime berths of Arkhangelsk have begun to ship considerable volumes of cardboard, cellulose and paper, which are being produced by wood chemistry giants of the European north--the Kotlas, Solombal'skiy and Arkhagelsk combines.

To Strive for More

As a result of the seamen's labor enthusiasm, the collective of the steamship company has fulfilled its tasks for the first 3 years of the five-year plan ahead of schedule and is successfully solving the tasks assigned to it. The results of the high labor mood are on hand--by improving the carrying capacity of the fleet, reducing the layover time and all possible economizing of fuel and lubricants it was possible since the beginning of the five-year plan to raise labor productivity by 2.7 percent and to reduce the prime cost of hauling by 0.5 percent.

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